



City of Fitchburg  
Planning/Zoning Department  
5520 Lacy Road  
Fitchburg, WI 53711  
(608) 270-4200

## CONDITIONAL USE PERMIT APPLICATION

The undersigned owner, or owner's authorized agent, of property herein described hereby applies for a conditional use permit for the following described property:

**1. Location of Property:**

**Street Address:** \_\_\_\_\_

**Legal Description - (Metes & Bounds, or Lot No. And Plat):** \_\_\_\_\_

\_\_\_\_\_

\*\*\*Also submit in electronic format (MS WORD or plain text) by email to: **PLANNING@FITCHBURGWI.GOV**

**2. Current Use of Property:** \_\_\_\_\_

**3. Proposed Use of Property:** \_\_\_\_\_

**4. Proposed Development Schedule:** \_\_\_\_\_

**5. Zoning District:** \_\_\_\_\_

**6. Future Land Use Plan Classification:** \_\_\_\_\_

\*\*\*Pursuant to Section 22-3(b) of the Fitchburg Zoning Ordinance, all Conditional Use Permits shall be consistent with the currently adopted City of Fitchburg Comprehensive Plan.

\*\*\*Attach three (3) copies of a site plan which shows any proposed land divisions, plus vehicular access points and the location and size of all existing and proposed structures and parking areas. Two (2) of the three (3) copies shall be no larger than 11" x 17". Submit one (1) pdf document of the entire submittal to [planning@fitchburgwi.gov](mailto:planning@fitchburgwi.gov).

Additional information may be requested.

**Type of Residential Development (If Applicable):** \_\_\_\_\_

**No. of Dwelling Units by Bedroom:**    1 BR \_\_\_\_\_    2 BR \_\_\_\_\_    3 BR \_\_\_\_\_    4 or More \_\_\_\_\_

**No. Of Parking Stalls:** \_\_\_\_\_

**Type of Non-residential Development (If Applicable):** \_\_\_\_\_

**Proposed Hours of Operation:** \_\_\_\_\_ **No. Of Employees:** \_\_\_\_\_

**Floor Area:** \_\_\_\_\_ **No. Of Parking Stalls:** \_\_\_\_\_

**Sewer:** Municipal \_\_\_\_\_ Private \_\_\_\_\_ **Water:** Municipal \_\_\_\_\_ Private \_\_\_\_\_

**Current Owner of Property:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **Phone No:** \_\_\_\_\_

**Contact Person:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **Phone No:** \_\_\_\_\_

**Respectfully Submitted By:** \_\_\_\_\_

Owner's or Authorized Agent's Signature

**\*\* It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting an CUP application to identify any concerns or issues of surrounding residents.**

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

**For City Use Only:**    **Date Received:** \_\_\_\_\_ **Publish:** \_\_\_\_\_

**Ordinance Section No.** \_\_\_\_\_ **Fee Paid:** \_\_\_\_\_

**Permit Request No.** \_\_\_\_\_

DRIVING DIRECTIONS

FROM SUGAR RIDGE AIRPORT

1. HEAD EAST TOWARD RIVERSIDE RD 0.2 MI

2. TURN LEFT ONTO RIVERSIDE RD 1.5 MI

3. TURN LEFT ONTO WI-69 N 1.1 MI

4. TURN RIGHT TO MERGE ONTO US-151 N/US-18 E TOWARD MADISON 5.5 MI

5. TURN RIGHT ONTO MCKEE RD 0.3 MI

6. TURN RIGHT ONTO COMMERCE PARK DR DESTINATION WILL BE ON THE RIGHT 0.5 MI

SITE QUALIFICATION PARTICIPANTS

	NAME	COMPANY	PHONE
A/E	: NEBOJSA STANIC	FORGE INC.	312-804-9061
REAL ESTATE	: RICK COGSWELL	MASTEC	847-463-5953
RF	: KENT BERNER	AT&T	847-330-7592
PM	: MANUEL FERRA	MASTEC	678-477-6660
REGULATORY	: LAURA PYLE	MASTEC	847-463-5912
CM	: JIMMY FLOWERS	MASTEC	866-545-1782

CODE COMPLIANCE

MUNICIPAL CODE OF MADISON, WI

LIGHTNING PROTECTION CODE: NFPA 780-2000 LIGHTING PROTECTION CODE

SUBCONTRACTOR WORK SHALL COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES AS ACCEPTED BY THE LOCAL JURISDICTION WITH ALL ADOPTED CODES AND AMENDMENTS IN EFFECT ON THE DATE OF THE CONTRACT AWARDS SHALL GOVERN THE DESIGN.

AMERICAN CONCRETE INSTITUTE (ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE)

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES

TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS DO NOT APPLY



APPROVED FOR CONSTRUCTION

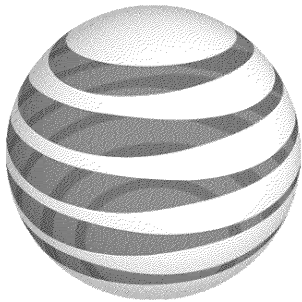
NETWORK DEVELOPMENT

SITE ACQUISITION

RF

CONSTRUCTION

PROPERTY OWNER



at&t

AT&T WIRELESS, INC.  
930 NATIONAL PARKWAY  
SCHAUMBURG, IL 60173

# WI2020 CITY OF FITCHBURG

2827 COMMERCE PARK DR  
FITCHBURG, WI 53719

SITE TYPE

## WATER TOWER

STRUCTURE HEIGHT: 120'-5"H  
STRUCTURE TYPE: WATER TOWER  
ANTENNA QTY: 6  
ANTENNA HEIGHT (CL): 135'-0"  
LEASE AREA: 304 SQ. FT.  
EQUIPMENT MOUNTING: EQUIPMENT BUILDING  
(6) ANTENNAS, (9) RRU'S, (3) DC6 BOXES, (3) DC2 BOXES,  
(2) HVAC UNITS, (1) GENERATOR

at&t APPROVALS

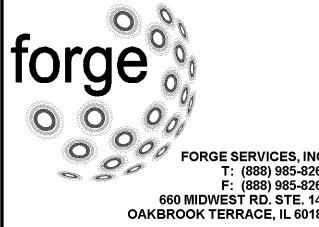
	PRINT NAME	SIGNATURE	DATE
SITE ACQUISITION MANAGER:			
MASTEC CONSTRUCTION MANAGER:			
MASTEC SA PROJECT MANAGER:			
MASTEC SA SPECIALIST:			
MASTEC COMPLIANCE MANAGER:			
AT&T RF PROJECT MANAGER:			
AT&T PROJECT MANAGER:			

RFDS VERSION: THESE DRAWINGS ARE BASED ON RFDS DATED 05/28/2015

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4	C2.1	EAST ELEV. & ANT. PLAN	
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MasTec  
Network Solutions



FORGE PROJECT NO: 6657  
DRAWN BY: AW, TL  
CHECKED BY: FB

REV	DATE	DESCRIPTION
A	8/2/2015	ISSUED FOR V.1 LE
B	7/14/2015	ISSUED FOR V.1 90 CD'S

CONSTRUCT ONLY FROM DRAWINGS  
MARKED "ISSUED FOR CONSTRUCTION"

DRAFT

DATE SIGNED: \_\_\_\_\_

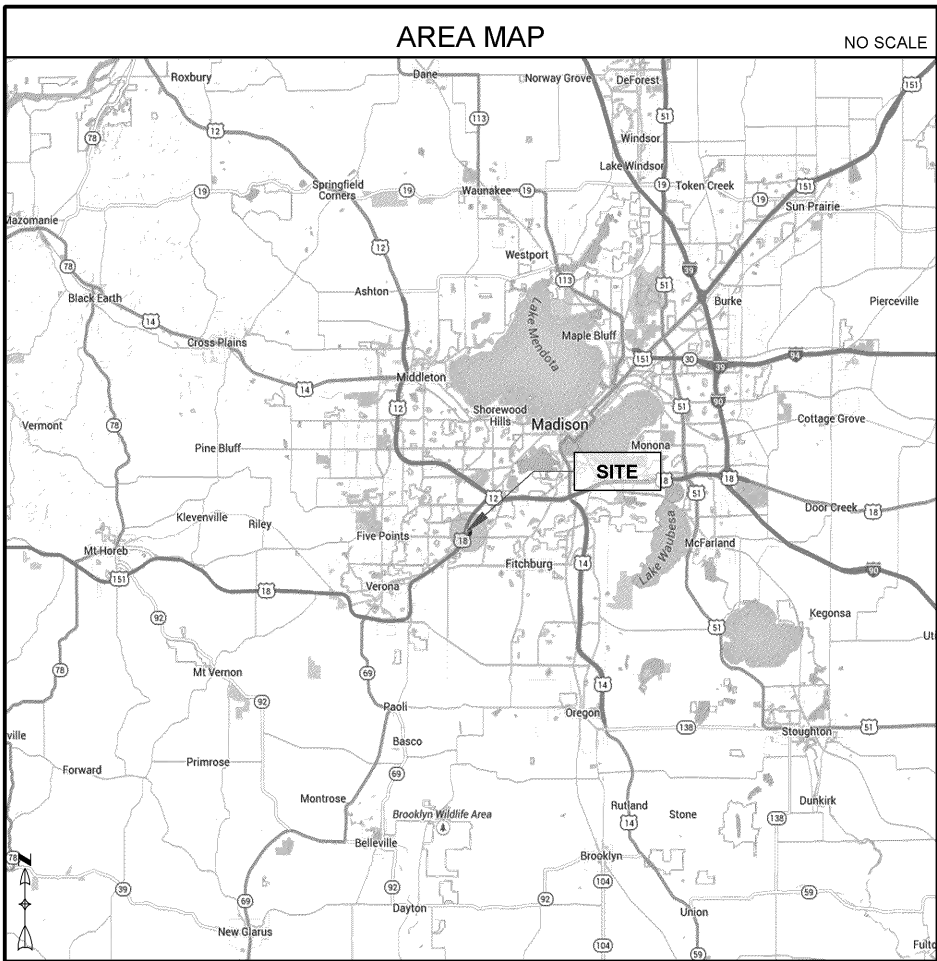
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WI2020  
CITY OF FITCHBURG  
2827 COMMERCE PARK DR  
FITCHBURG, WI 53719  
WATER TOWER

TITLE SHEET

T1.1

THIS DRAWING IS SCALED FOR 11x17 PAPER (U.S. GOVT. "TABLOID")



SITE INFORMATION

PROPERTY OWNER: CITY OF FITCHBURG  
5520 LACY RD  
FITCHBURG, WI 53711

OWNER CONTACT: TRACY FOSS  
(608) 270-4272

SITE ADDRESS: 2827 COMMERCE PARK DR  
TOWER E  
FITCHBURG, WI 53719

APPLICANT: AT&T WIRELESS, INC.  
25000 GREAT NORTHERN COPR. STE. 444 CTR 1  
NORTH OLMSTED, OH 44070

SITE CONTACT: TRACY FOSS (608) 270-4272

COUNTY: DANE

FA #: 13106801

PIN: N/A

PROPOSED USE: TELECOMMUNICATIONS FACILITY

ZONING CLASS: N/A

ZONING JURISDICTION: FITCHBURG

TELCO: AT&T

POWER CO: MADISON GAS & ELECTRIC

E911: N/A

LATITUDE: 43°00'29.03"N (43.008065°N)

(NAD 83)

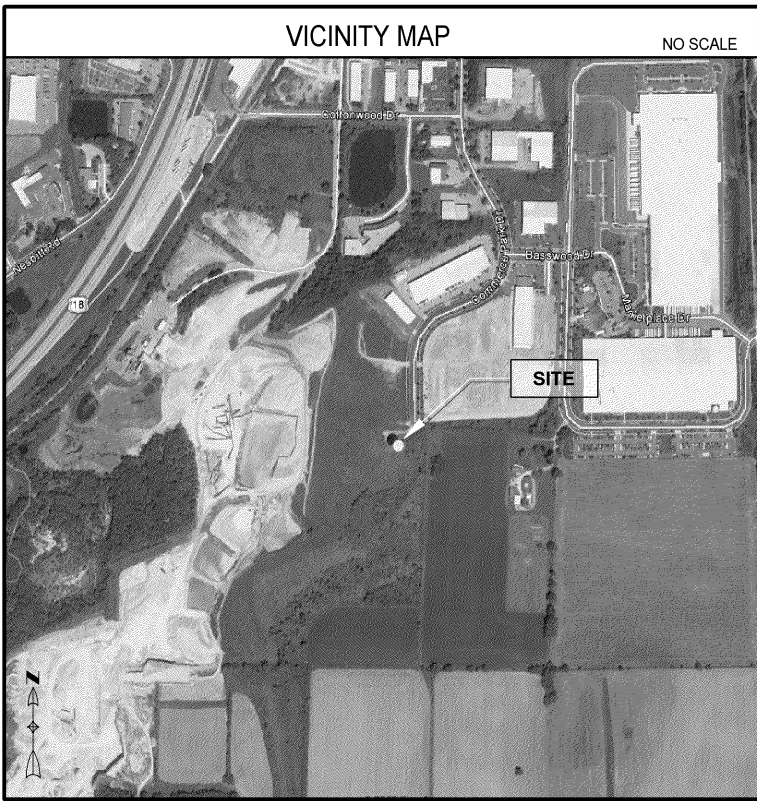
LONGITUDE: 089°28'08.68"W (089.469078°W)

(NAD 83)

GROUND ELEVATION: N/A

(NGVD 29)

DATASOURCE APPROXIMATE

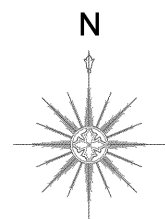


811 Know what's below.  
Call before you dig.

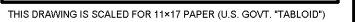
WISCONSIN ONE-CALL SYSTEM  
CALL BEFORE YOU DIG  
THIS NOTICE MUST BE AT LEAST 72  
HOURS /THREE WORKING DAYS PRIOR  
TO THE START OF EXCAVATION

MANHOLE/VALVE VAULT  
CATCH BASIN  
CURB INLET  
VALVE (INDIVIDUAL SERVICE)  
FIRE HYDRANT  
STREET LIGHT/LIGHT POST  
UTILITY/POWER POLE  
GUY WIRE/ANCHOR  
TELEPHONE PEDESTAL  
ELECTRIC METER  
GAS METER  
TRAFFIC SIGNAL  
TRAFFIC SIGNAL BOX  
SIGN  
MAIL BOX  
HANDHOLE  
DRAINPIPE  
FES (AT END OF PIPE)  
CHAIN LINK FENCE  
WOOD FENCE  
DEPRESSED CURB  
CONCRETE CURB & GUTTER  
SANITARY SEWER  
STORM SEWER  
WATER MAIN  
OVERHEAD ELECTRIC  
UNDERGROUND ELECTRIC  
OVERHEAD TELEPHONE  
UNDERGROUND TELEPHONE  
GAS LINE  
CABLE LINE  
BUSH/SHRUB  
TREE DECIDUOUS  
TREE NON-DECIDUOUS  
DRAINAGE ARROW  
CONTOUR LINE  
SPOT ELEVATION  
TOP OF FOUNDATION  
TOP OF CONCRETE/CAISSON  
FINISHED FLOOR  
ABOVE GROUND LEVEL  
BOUNDARY LINE  
CONCRETE  
ASPHALT  
GRAVEL  
BRICK  
NEW BUILDING/EQUIPMENT  
EXISTING BUILDING  
LEASE SITE  
ACCESS EASEMENT

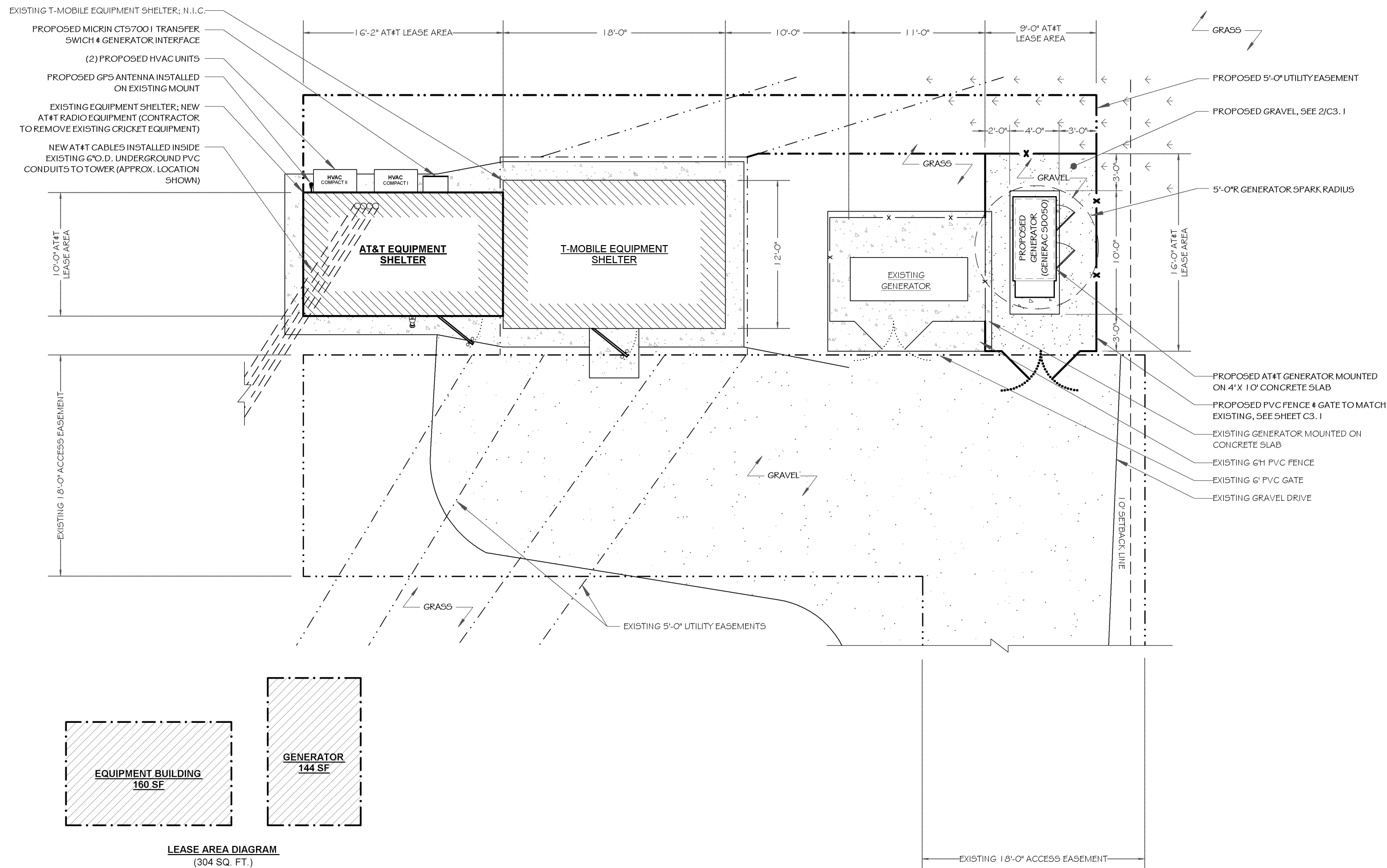
SCALE: 1" = 30'-0"



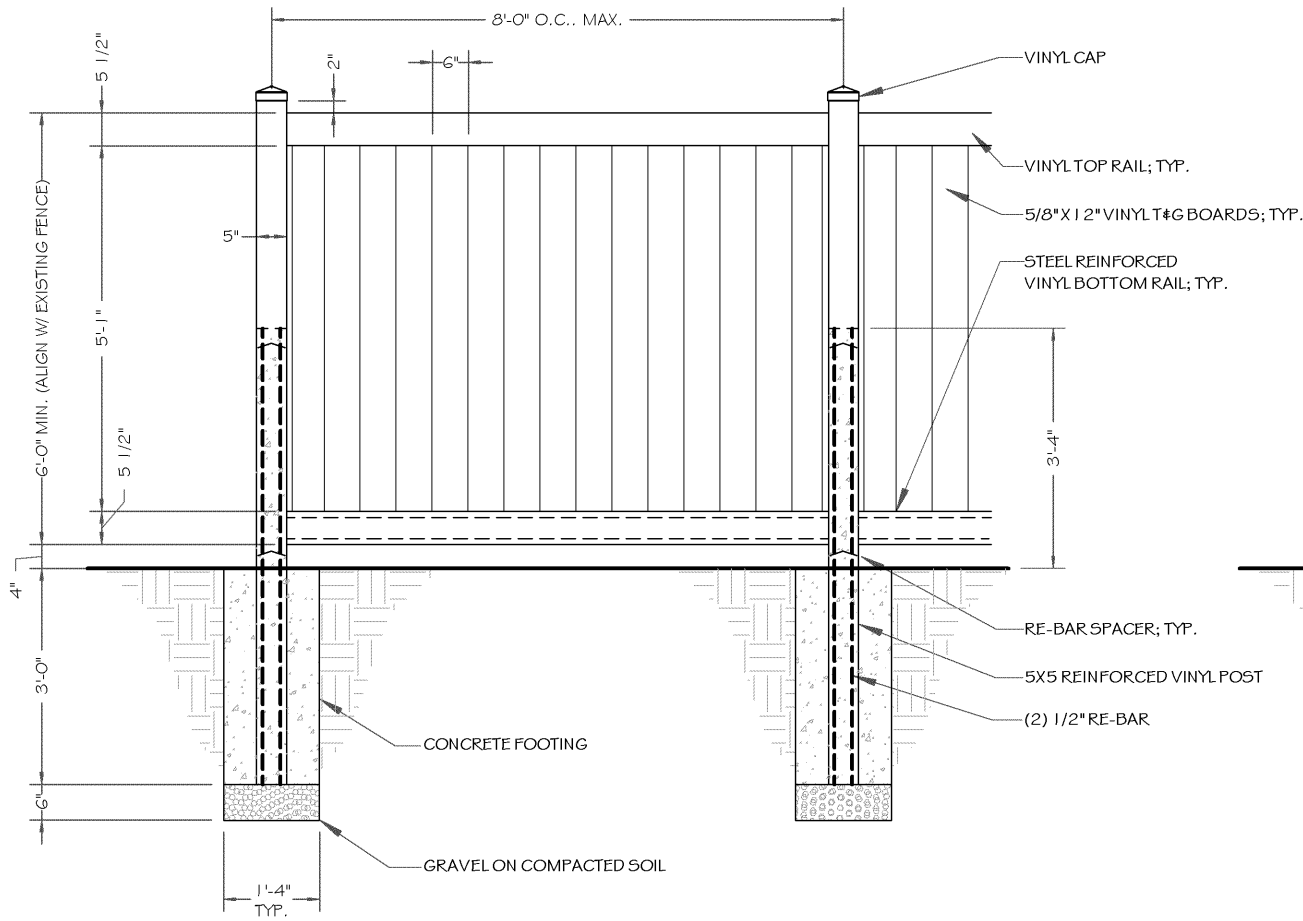
FRONT YARD : 40'  
SIDE YARD : 10'  
REAR YARD : 50'



THIS DRAWING IS SCALED FOR 11x17 PAPER (U.S. GOVT. "TABLOID")



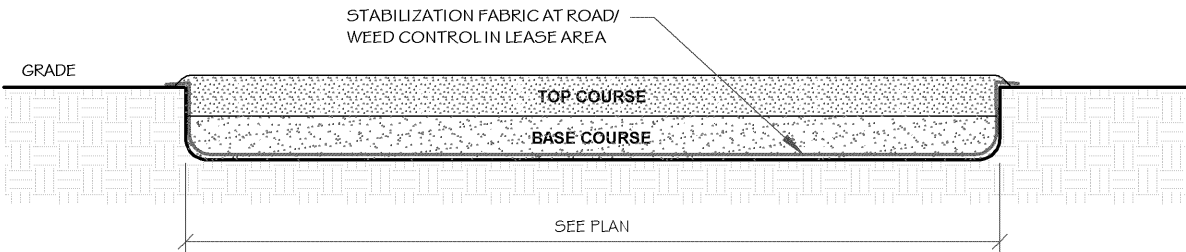




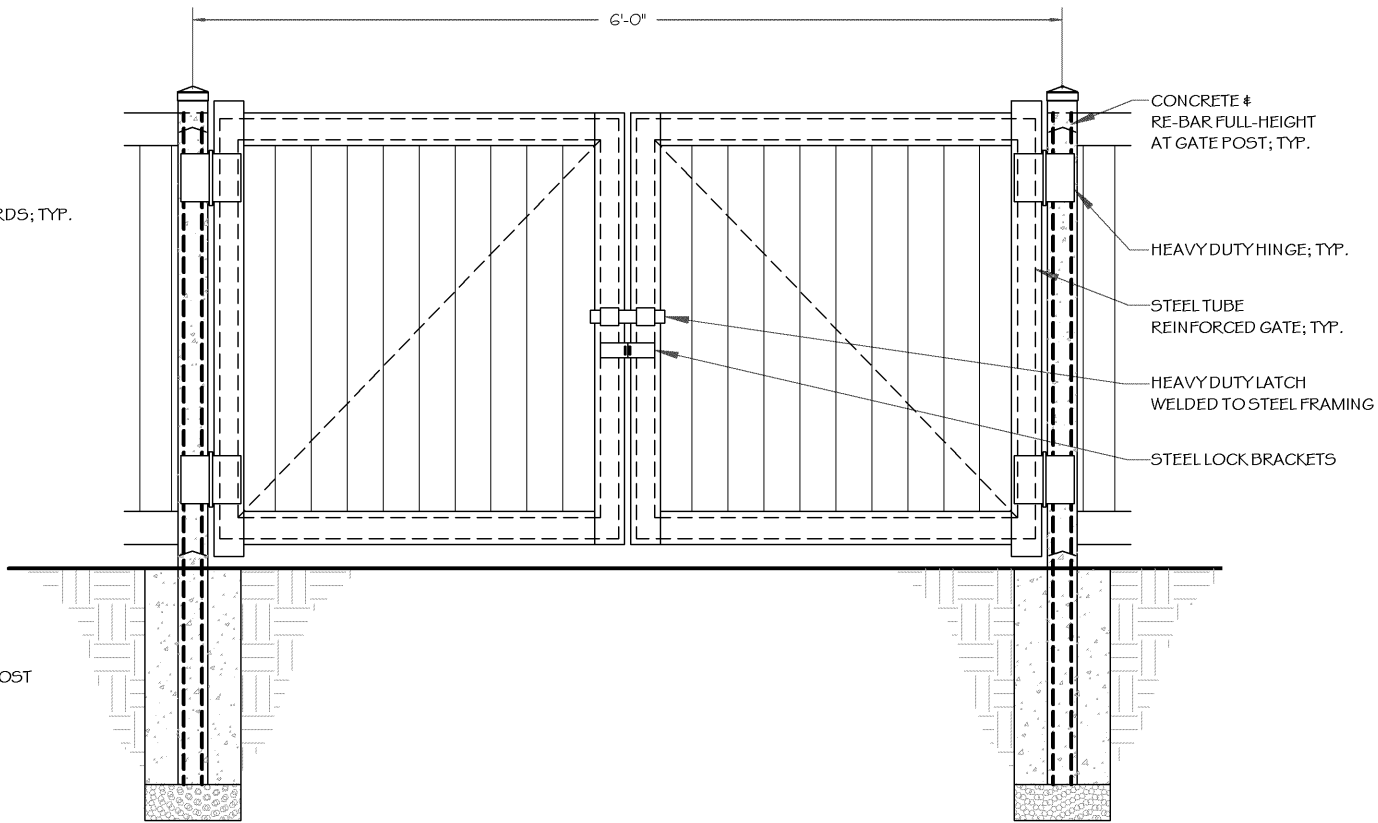
FENCE ELEVATION

FENCE NOTES:

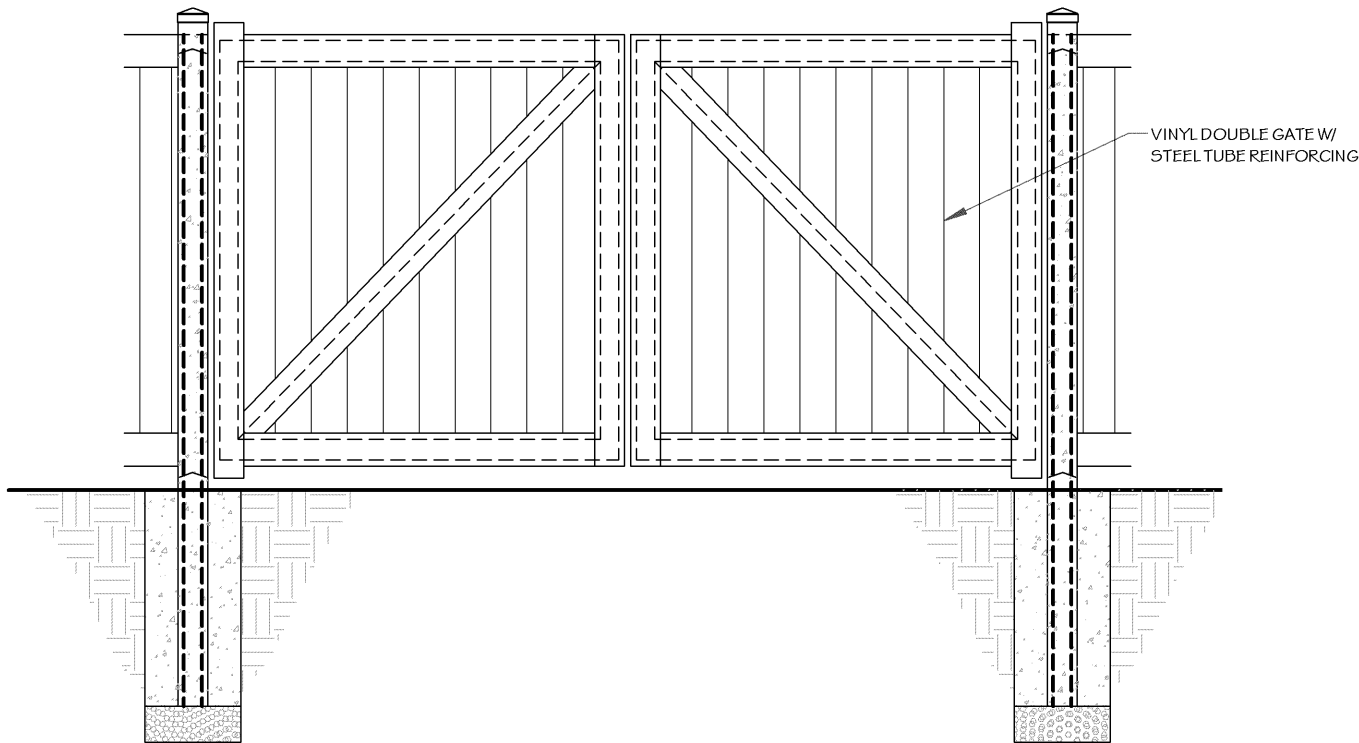
- VINYL FENCE TO BE ASTM F964-09 COMPLIANT
- COLOR TO MATCH EXISTING. VERIFY COLOR WITH OWNER.
- FENCE TO BE 100% OPAQUE



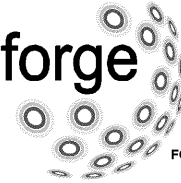
TOP COURSE: 4" MIN. OF COMPACTED CA-7 (NO FINES) COARSE AGGREGATE  
BASE COURSE: 4" MIN. OF COMPACTED CA-6 COARSE AGGREGATE  
GROUND PREP: MIRAFI 500 WEED CONTROL AND GROUND STABILIZATION FABRIC



DOUBLE GATE FRONT ELEVATION



DOUBLE GATE REAR ELEVATION



FORGE SERVICES, INC.  
T: (888) 985-8267  
F: (888) 985-8267  
660 MIDWEST RD. STE. 140  
OAKBROOK TERRACE, IL 60181

kamry  
CONSULTING ENGINEERS  
406 MEADOW RIDGE  
PROSPECT HEIGHTS, IL 60070  
TEL: (847) 670-7413  
FAX: (847) 850-2609  
WWW.KAMRYENG.COM

FORGE PROJECT NO: 6657

DRAWN BY: AW, TL

CHECKED BY: FB

REV	DATE	DESCRIPTION
A	8/2/2015	ISSUED FOR V.1 LE
B	7/14/2015	ISSUED FOR V.1 90 CD'S

CONSTRUCT ONLY FROM DRAWINGS  
MARKED "ISSUED FOR CONSTRUCTION"

DRAFT

DATE SIGNED: \_\_\_\_\_

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WI2020  
CITY OF FITCHBURG

2827 COMMERCE PARK DR  
FITCBURG, WI 53719

WATER TOWER

FENCE DETAILS

C3.1



CONCRETE:

- EXCEPT WHERE OTHERWISE INDICATED, CONCRETE SHALL BE NORMAL WEIGHT AND WITH MINIMUM 28-DAY COMPRESSIVE STRENGTHS OF  $F'_{c} = 3000$  PSI.

  2. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF ACI CODE.
  3. CEMENT SHALL CONFORM TO ASTM C150 TYPE I AGGREGATES SHALL CONFORM TO ASTM C33 (REGULAR WEIGHT).
  4. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
  5. ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315. BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED.
  6. UNLESS NOTED OTHERWISE, ALL SLABS ON GRADE SHALL BE REINFORCED WITH ONE (1) LAYER OF X 6-W2.9 X W2.9 W.W.F. AT MID HEIGHT OF SLAB.
  7. ALL REINFORCING SPLICES SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, LATEST EDITION BUT IN NO CASE SHALL BE LESS THAN 36 BARS DIAMETERS, UNLESS NOTED OTHERWISE, ALL WELDED WIRE FABRIC SHALL BE LAPPED TWO (2) FULL MESH PANELS AND TIES SECURELY. WHERE REQUIRED, DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING.
  8. WELDING OF REINFORCEMENT IS NOT PERMITTED.
  9. PLACE ALL SLABS ON GRADE WITH AN APPROVED PATTERN AND SEQUENCE OF CONSTRUCTION AND CONTROL JOINTS (MINIMUM OF 15'-0" O.C.) TO MINIMIZE SHRINKAGE CRACKS.
  10. ALL EXPOSED EDGES OF CONCRETE SLABS SHALL BE ROUNDED OVER AND CHAMFERED 3/4".
  11. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GENERALLY ACCEPTED INSTALLATION PRACTICES.
  12. CONCRETE SHALL BE PLACED IN MANNER THAT WILL PREVENT SEGREGATION OF CONCRETE MATERIALS, AND INFILTRATION OF WATER, SOIL, AND OTHER OCCURRENCES WHICH MAY DECREASE THE STRENGTH OF DURABILITY OF THE FOUNDATION.
  13. PROVIDE TEST CYLINDERS PER ASTM C 31 AND AS FOLLOWS: ONE SET OF CYLINDERS FOR EVERY TRUCK LOAD OF CONCRETE.
  14. TESTING OF CONCRETE CYLINDERS SHALL CONFORM TO ASTM C-39 AND SHALL BE CONDUCTED BY INDEPENDENT LAB. COST SHALL BE BORNE BY THE OWNER. A COPY OF THE TEST REPORT SHALL BE SENT TO THE ENGINEER.
  15. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

MINIMUM COVER, IN.

(A) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH .....	3..
(B) CONCRETE EXPOSED TO EARTH OR WEATHER:	
NO. 6 THROUGH NO. 18 BARS .....	2..
NO. 5 BAR, W31 OR D31 WIRE # SMALLER .....	1-1/2
(C) CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS:	
NO. 14 AND NO. 18 BARS .....	1-1/2
NO. 11 BAR AND SMALLER .....	3/4
BEAMS, COLUMNS:	
PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS .....	1-1/2
SHELLS, FOLDED PLATE MEMBERS:	
NO. 6 BAR AND LARGER .....	3/4
NO. 5 BAR, W31 OR D31 WIRE, AND SMALLER .....	1/2



## EQUIPMENT FOUNDATION PLAN

SCALE: NTS

NOTE:  
CONTRACTOR TO COORDINATE  
SLAB OPENINGS  
W/ GENERATOR MFR

NEW EQUIPMENT TO BE PLACED  
IN CENTER OF FOUNDATION PAD

HEAVEY BROOM  
FINISH

2  
S2.1

$$|O'-O''|$$
 $4'-O''$ 

FOUNDATION SECTION

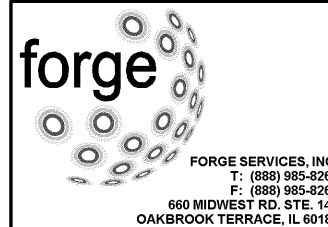
SCALE: NTS

3/4" CHAMFER ALL EXPOSED EDGES

0'-6" CONCRETE SLAB W/ 6"X6"-WG XG WWF  
ON 6" COMPACTED CA-G GRAVEL TO MIN. OF 95%  
OF MAX. DRY DENSITY AS DETERMINED IN ACCORDANCE  
WITH ASTM D 1557 (MODIFIED PROCTOR)

## FOUNDATION CORNER SECTION

SCALE: NTS



FORGE PROJECT NO: 6657

DRAWN BY: **AW, TL**

CHECKED BY: FB

[illegible]

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MARKED "ISSUED FOR CONSTRUCTION"

**DRAFT**

DATE SIGNED: \_\_\_\_\_

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WI2020  
CITY OF FITCHBURG

2827 COMMERCE PARK DR  
FITCHBURG, WI 53719

WATER TOWER

## SLAB ON GRADE

## S2.1

THIS DRAWING IS SCALED FOR 11x17 PAPER (U.S. GOVT. "TABLOID")



ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS. IN ADDITION TO THE FOLLOWING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING AND OBSERVING ALL LOCAL CODES AND REGULATIONS AS APPLICABLE FOR CONSTRUCTION.

IBC	INTERNATIONAL BUILDING CODE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NEC	NATIONAL ELECTRICAL CODE
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
NESC C2	NATIONAL ELECTRICAL SAFETY, CODE C2-1997
AWS D1.1	AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE
ASHA	OCCUPATION SAFETY AND HEALTH ADMINISTRATION
SSPC	STRUCTURAL STEEL PAINTING COUNCIL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ACI 318	AMERICAN CONCRETE INSTITUTE, BUILDING CODE, 1995
AWWA	AMERICAN WATER WORKS ASSOCIATION

GENERAL REQUIREMENTS:

1. THE FACILITY IS AN UNOCCUPIED SPECIALIZED MOBILE RADIO FACILITY.
2. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHER – WISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
3. PRIOR TO THE SUBMISSION OF THE BIDS, THE CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS, AND ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
4. THE CONTRACTOR SHALL RECEIVE IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY IDENTIFIED BY THE CONTRACT DOCUMENTS.
5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE NOTED.
6. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING BEST SKILLED PERSONNEL. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT INCLUDING CONTACT AND COORDINATION WITH THE LANDLORD'S AUTHORIZED REPRESENTATIVE.
7. THE CONTRACTOR SHALL FILED VERIFY ALL DIMENSIONS AND CONDITIONS ON THE SITE AND NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES BEFORE STARTING ANY WORK.
8. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
9. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, PAVING, CURBS, GALVANIZED SURFACES, ETC., AND UPON COMPLETION OF WORK, REPAIR ANY DAMAGE THAT OCCURRED DURING CONSTRUCTION.

10. KEEP THE CONSTRUCTION SITE CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
11. CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS BUILT DRAWINGS TO THE OWNER AFTER COMPLETION OF THE JOB.
12. MEANS AND METHODS OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO. THE DESIGN AND PLACEMENT OF FORMS AND SHORING ARE THE RESPONSIBILITY OF THE CONTRACTOR.

## STEEL NOTES

1. ALL THE WORK ON WATER TOWER SHALL BE PERFORMED BY OWNER (OWNER) APPROVED CONTRACTOR
2. ALL STRUCTURAL STEEL SHAPES, PLATES, BARS, RODS SHALL CONFORM TO ASTM A36,  $F_y = 36$  KSI, UNLESS NOTED OTHERWISE. ALL STRUCTURAL PIPES SHALL CONFORM TO ASTM A53 GRADE B.  $F_y = 35$  KSI.
3. ALL STRUCTURAL FASTENERS SHALL BE OF DOMESTIC ORIGIN AND CONFORM TO ASTM A325, SLIP CRITICAL STRUCTURAL BOLTS: HOLE SIZE SHALL BE 1/16 INCH IN DIAMETER LARGER THAN THE BOLT SIZE INDICATED. ALL H. HEX NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A563. ALL WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F436. ALL HOLES SHALL BE DRILLED OR PUNCHED.
4. UNLESS NOTED OTHERWISE ALL FASTENERS SHALL BE 3/4" Ø.
5. ALL STRUCTURAL STEEL MEMBERS SHALL BE TRUE, STRAIGHT AND PLUMB OR LEVEL UNLESS NOTED.
6. DIMENSIONS OF EXISTING CONSTRUCTION SHALL BE VERIFIED AND COORDINATED PRIOR TO FABRICATION OF ALL STEEL COMPONENTS.
7. FABRICATION AND ERECTION OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE AISC CODE OF STANDARD PRACTICE UNLESS OTHERWISE DETAILED.
8. ALL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-A123-G120 SPECIFICATIONS FOR ZINC (HOT-GALVANIZED) COATINGS ON PRODUCTS FABRICATED FROM ROLLED, PRESSED AND FORGED STEEL SHAPES, PLATES, BARS AND STRIPS. FOLLOW ASTM-A780 PRACTICE FOR REPAIR OF DAMAGED HOT DIPPED GALVANIZED COATING.
9. PREPARE EXISTING STRUCTURAL COMPONENT SURFACES WHERE WELDING IS TO BE PERFORMED IN ACCORDANCE WITH SSPC-API AND SP3 AS A MINIMUM.
10. DO NOT GALVANIZE STEEL MEMBERS AT WELDS. PREPARE PER AWS AND AWWA D100 REQUIREMENTS. REPAIR AND RECOAT GALVANIZING AFTER WELDING. GALVANIZING MUST BE GROUND OFF FOR WELDING.

## HEALTH AND SAFETY

1. CONTRACTOR SHALL PROVIDE ALL SAFETY EQUIPMENT AND FALL PROTECTION TO INSURE THE SAFETY OF ON SITE PERSONNEL DURING CONSTRUCTION.
2. ACCESS TO THE TANK INTERIOR WATER COMPARTMENT SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE WATER DEPARTMENT SUPERVISOR. PRECAUTIONS SHALL BE TAKEN TO PREVENT WATER CONTAMINATION.
3. THE PAINT SYSTEM SHALL BE CHECKED FOR HAZARDOUS METALS. WHERE HAZARDOUS METALS ARE FOUND IN THE PAINT SYSTEM, THE ENVIRONMENT AND WORKERS MUST BE PROTECTED FROM CONTAMINATION.

4. CONTRACTOR SHALL MAINTAIN ALL OSHA AND AWWA D100 SAFETY CLEARANCES BETWEEN THE LADDER AND COAX SUPPORT.

## GENERAL WELDING

1. ALL THE WORK ON WATER TOWER SHALL BE PERFORMED BY OWNER APPROVED CONTRACTOR.
2. ALL WELDING SHALL BE IN ACCORDANCE WITH AWWA D100 SEC. 8. WELDING AND SEC. 11. INSPECTION AND TESTING.
3. ALL WELDS TO THE TANK SURFACE SHALL BE MADE WITH E7018 LOW HYDROGEN ROD AND SHALL BE SMOOTH AND FREE OF BURRS AND UNDERCUTS. UNACCEPTABLE WELDS SHALL BE REPAIRED AS REQUIRED TO MEET AWWA D100 REQUIREMENTS.
4. NO WELDING SHALL BE DONE WHEN THE AMBIENT TEMPERATURE IS BELOW 32 DEGREE FAHRENHEIT UNLESS THE REQUIREMENTS OF AWWA D100, SEC 10.2.1 ARE FOLLOWED.
5. WELDING TO THE TANK OR ACCESS TUBE OPPOSITE THE WATER LEVEL IS NOT PERMITTED. THE WATER LEVEL SHALL BE DRAWN DOWN TO A LEVEL TWO FEET BELOW THE POINT OF WELDING.
6. WELDING MAY CAUSE BLISTERING OF THE INTERIOR PAINT OPPOSITE THE WELD. DAMAGED PAINT SURFACES SHOULD BE TOUCHED UP WHEN THE TANK IS TAKEN OUT OF SERVICE FOR ITS ANNUAL INSPECTION. EXTERIOR PAINT DAMAGE SHALL BE REPAIRED AFTER COMPLETION OF THE ANTENNA INSTALLATION, AND SHALL BE COMPATIBLE WITH THE EXISTING PAINT SYSTEM.
7. GALVANIZED COMPONENTS SHALL NOT BE WELDED DIRECTLY TO THE TANK SURFACE. OTHER GALVANIZED SURFACES SHALL BE GROUND FREE OF GALVANIZING BEFORE WELDING.
8. TUBULAR COLUMNS ARE HERMETICALLY SEALED AND MUST NOT BE BREACHED (PUNCTURED) UNDER ANY CIRCUMSTANCES.

## GENERAL PAINTING NOTES

1. AFTER WELDING, SPOT REPAIR ALL ABRADED AND WELDED AREAS BY POWER TOOL CLEANING TO A SSPC-SP11 GREY METAL FINISH EXTERIOR.
2. PAINTING AND PAINT TOUCH UPS SHALL BE PER THE VILLAGE SPECIFICATIONS.
3. APPLY PRIME COAT OF TNE MEC SERIES 20PC. INTERMEDIATE COAT OF TNE MEC SERIES 20FC, AND A FINAL COAT OF TNE MEC SERIES 74, TO A DFT OF 6 MILS. COLOR SHALL MATCH EXISTING EXTERIOR TOPCOAT COLOR.
4. SHOP ABRASIVE BLAST CLEAN TO A COMMERCIAL GRADE (SSPC-SFG) AND PRIME COAT NEW STEEL WITH A PRIME COAT OF TNE MEC SERIES 20FC EPOXY.
5. AN INTERMEDIATE COAT OF TNE MEC SERIES 20PC EPOXY. AND A TOP COAT ON TNE MEC SERIES 74 - URETHANE TO MATCH EXISTING COATING SYSTEM, TO A DFT OF 6 MILS. EDGES TO BE WELDED ARE BOT TO BE PRIMED.
6. PREPARE AND COAT ALL GALVANIZED ITEMS SPOT DAMAGED IN ACCORDANCE WITH ITEM 1 ABOVE USING SERIES 27 PRIMER.
7. ON GALVANIZED SURFACES NOT DAMAGED: NO PAINTING IS REQUIRED.
8. FOLLOW THE PAINT MANUFACTURERS RECOMMENDATIONS FOR AMBIENT CONDITIONS. FOR APPLICATION WET AND DRY FILM THICKNESS AND CURE TIME.

## MISCELLANEOUS

VERIFY ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO FABRICATION  
OF ALL STRUCTURAL AND MISCELLANEOUS STEEL COMPONENTS.



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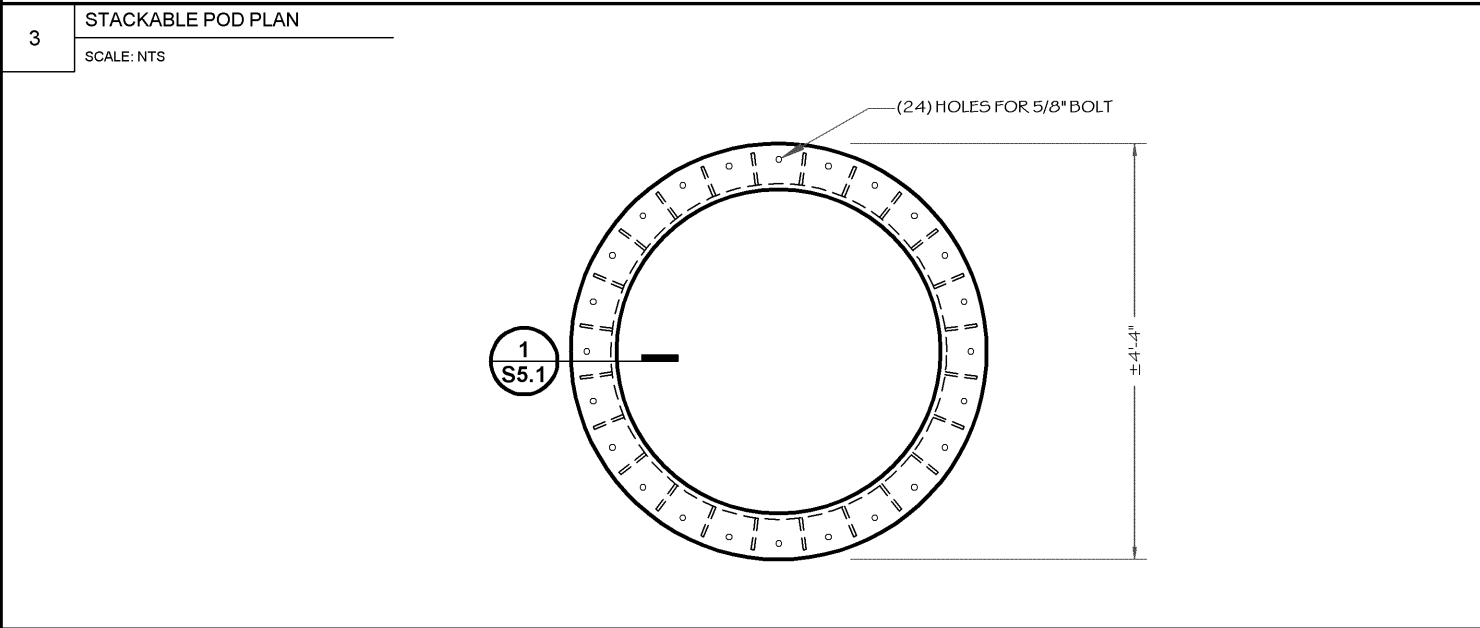
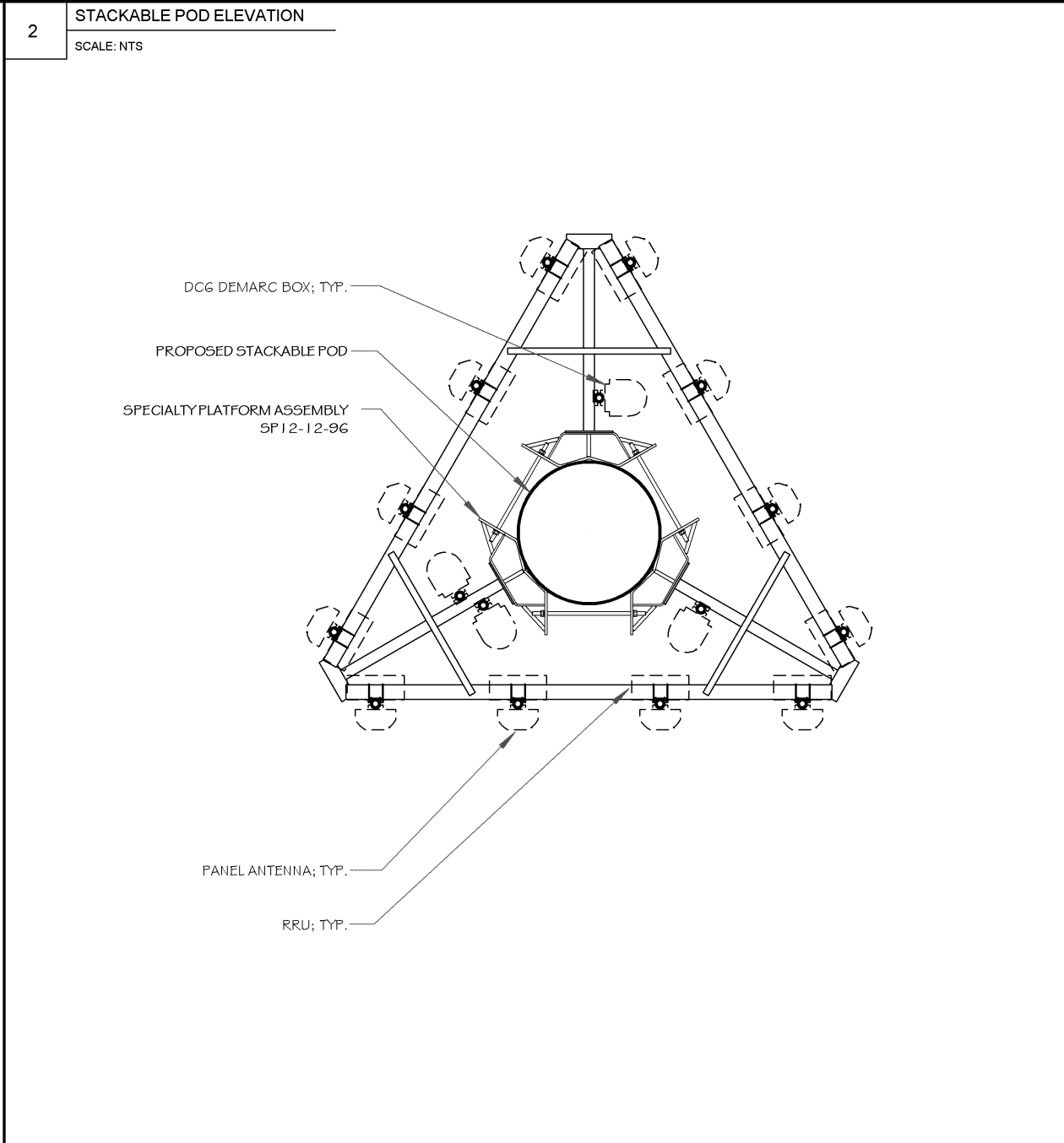
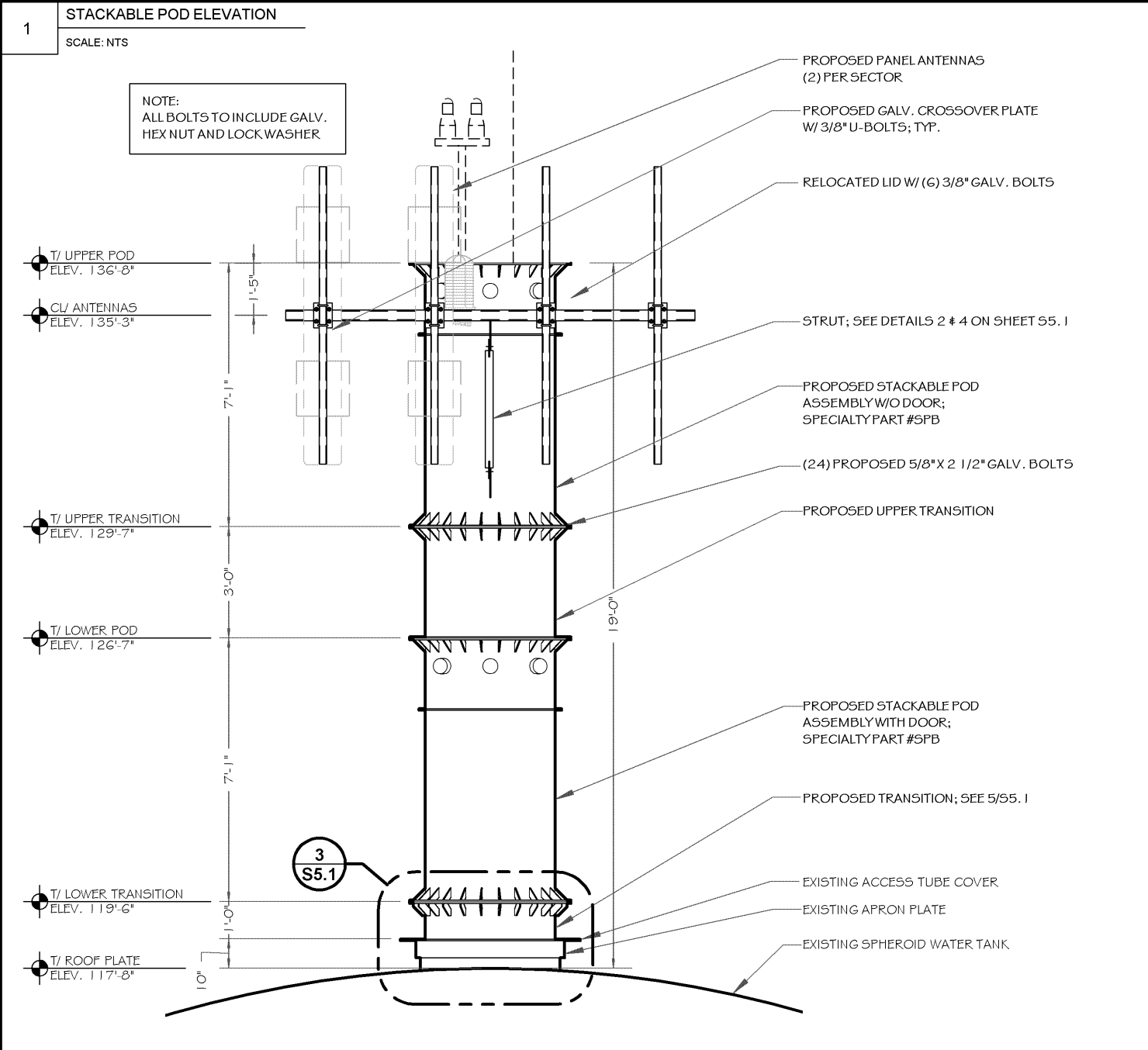
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## WATER TOWER

## WT STRUCTURAL NOTES

### S3.1



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WATER TOWER

ANTENNA MOUNTING

S4.1

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1

RF SCHEDULE

SCALE: NTS

ANTENNA CONFIGURATION SCHEDULE														
SECTOR	ANTENNA NUMBER	ANTENNA VENDOR	ANTENNA MODEL NO.	TECH/FREQ. PORT1/PORT2	RRH LOCATION/ FEEDER TYPE	AZIMUTH	RAD	ANTENNA TIP HT. FROM GROUND	FEEDER SIZE	FEEDER LENGTH	ANTENNA GAIN	MECH. DOWN TILT	ELEC. DOWN TILT	NOTES
ALPHA	A1													
	A2													
	A3	ANDREW	SBNHH-1D65C	UMTS 850/1900	BOTTOM* / FIBER	90°	135 FT	139 FT	-	10 FT	15.69 / 17.29	0°	4° / 2°	(2) RRUS-11
	A4	ANDREW	SBNHH-1D65C	LTE 700	BOTTOM* / FIBER	90°	135 FT	139 FT	-	10 FT	15.89	0°	4°	(1) RRUS-11
BETA	B1													
	B2													
	B3	ANDREW	SBNHH-1D65C	UMTS 850/1900	BOTTOM* / FIBER	210°	135 FT	139 FT	-	10 FT	15.69 / 17.29	0°	4° / 2°	(2) RRUS-11
	B4	ANDREW	SBNHH-1D65C	LTE 700	BOTTOM* / FIBER	210°	135 FT	139 FT	-	10 FT	15.89	0°	4°	(1) RRUS-11
GAMMA	C1													
	C2													
	C3	ANDREW	SBNHH-1D65C	UMTS 850/1900	BOTTOM* / FIBER	330°	135 FT	139 FT	-	10 FT	15.69 / 17.29	0°	4° / 2°	(2) RRUS-11
	C4	ANDREW	SBNHH-1D65C	LTE 700	BOTTOM* / FIBER	330°	135 FT	139 FT	-	10 FT	15.89	0°	4°	(1) RRUS-11
RFDS V01.0 DATED 5/28/2015				*NOTE: RFDS SHOWS RRH AT BOTTOM WHICH MAY BE IN ERROR. VERIFY LOCATION OF RRH (RRU) WITH RF ENGINEER PRIOR TO CONSTRUCTION.										

CABLE BENDING RADIUS			
CABLE Ø	COMMSCOPE (CORRUGATED)	COMMSCOPE (SMOOTH WALL)	RFS
1/2"	5"	4"	5"
7/8"	10"	8"	10"
1-1/4"	15"	--	15"
1-5/8"	20"	20"	20"


ANTENNA NOTES			
1. AZIMUTHS ARE ORIENTED CLOCKWISE FROM TRUE NORTH.			
2. ANTENNAS SHALL BE PLUMB AND ORIENTED TO AZIMUTHS INDICATED ON ANTENNA SCHEDULE.			
3. ANTENNAS TO BE INSTALLED PER CARRIER STANDARDS.			
4. CONTRACTOR TO VERIFY AZIMUTHS AND DOWN TILTS WITH CARRIER ENGINEER PRIOR TO CONSTRUCTION.			
5. SECTORS SHALL BE DESIGNATED IN A CLOCKWISE MANNER: SECTOR 1 (ALPHA) CLOSEST TO 0° (NORTH), SECTOR 2 (BETA) AND SECTOR 3 (GAMMA) TO FOLLOW CLOCKWISE SEQUENCE U.N.O.			
6. CONTRACTOR SHALL PROVIDE A WRITTEN REQUEST TO CARRIER FOR AMOUNT OF COAX (IN FEET) AS DETERMINED FROM THESE DRAWINGS AND BID WALK.			
7. ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWNTILT BRACKETS AND HEAVY DUTY CLAMPS PURCHASED FROM ANTENNA MANUFACTURER.			
COAXIAL CABLE NOTES			
1. CONTRACTOR TO VERIFY CABLE LENGTHS ON SITE. NO PRE-FABRICATION OF CABLE LENGTHS ALLOWED UNLESS FACTORY ORDERED TO LENGTH.			
2. CONTRACTOR SHALL NOT EXCEED CABLE LENGTHS AS LISTED ON SCHEDULE WITHOUT RF APPROVAL.			
3. EXCESSIVE DRIP LOOPS TO BE AVOIDED AT ENTRY TO WAVE GUIDE PORT (GREATER THAN 12" BELOW PORT).			
4. CONTRACTOR SHALL MAINTAIN RFS MINIMUM BEND RADIUS STANDARDS.			
5. COAXIAL CABLES SHALL BE SUPPORTED AT TOWER AND ICE BRIDGE USING SNAP IN HANGERS. PROVIDE BUTTERFLY CLAMPS WITH APPROPRIATE ADAPTERS ELSEWHERE.			
6. COAX TERMINATION TO BE COORDINATED WITH CARRIER CONSTRUCTION MANAGER.			
7. CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.			
8. COAXIAL CABLE SHALL BE LABELLED USING SCOTCH PROFESSIONAL GRADE COLOR CODING VINYL ELECTRICAL TAPE 35 (OR APPROVED EQUAL) AT TOP AND BOTTOM OF MAIN LINES, BOTH ENDS OF TOP JUMPER AND INSIDE SHELTER ACCORDING TO SCHEDULE COLOR CODING.			
9. ALL CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED WITH RFS COLD SHRINK WEATHERPROOFING KITS.			
10. GROUND KITS SHALL BE RFS GKSPEED20-158 SERIES AND PROVIDED AT THREE LOCATIONS PER COAXIAL CABLE: TOP TO GROUND BAR, BOTTOM AT GROUND BAR AND ENTRY TO SHELTER. GROUND KITS TO BE INSTALLED PARALLEL TO COAXIAL CABLE ROUTE.			
11. ALL COAX RUN THROUGH EXISTING INTERIOR FLOORS OR WALLS TO BE RISER RATED.			

2


FIBER MARKING COLOR CONVENTION TABLE

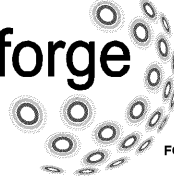
SCALE: NTS

FIBER COLOR MARKING SCHEDULE							
FIBER CABLE PAIR	TECHNOLOGY	BAND	SECTOR	RRH NUMBER	RADIO NAME	DC TRUNK	SOLID SURGE UNIT
1	LTE	700	A1	RRH-A1	LTE-700-A-RRH-A1	DC TRUNK #1 RED/BK - BLUE TRACER	MAIN A-1
2	LTE	AWS	A1	RRH-A2	LTE-AWS-A-RRH-A2	DC TRUNK #2 RED/BK - BLUE TRACER	MAIN B-1
3	LTE / UMTS	850/1900	A1	RRH-A3	LTE/UMTS-850/1900-A-RRH-A3	DC TRUNK #3 RED/BK - BLUE TRACER	FUTURE 4
4	SPARE	-	A1	-	SECTOR A SPARE	DC TRUNK #4 RED/BK - BLUE TRACER	FUTURE 4
5	LTE	700	B2	RRH-B1	LTE-700-B-RRH-B1	DC TRUNK #1 RED/BK - ORANGE TRACER	MAIN A-2
6	LTE	AWS	B2	RRH-B2	LTE-AWS-B-RRH-B2	DC TRUNK #2 RED/BK - ORANGE TRACER	MAIN B-2
7	LTE / UMTS	850/1900	B2	RRH-B3	LTE/UMTS-850/1900-B-RRH-B3	DC TRUNK #3 RED/BK - BLUE TRACER	FUTURE 4
8	SPARE	-	B2	-	SECTOR B SPARE	DC TRUNK #4 RED/BK - BLUE TRACER	FUTURE 4
9	LTE	700	C3	RRH-C1	LTE-700-C-RRH-C1	DC TRUNK #1 RED/BK - GREEN TRACER	MAIN A-3
10	LTE	AWS	C3	RRH-C2	LTE-AWS-C-RRH-C2	DC TRUNK #2 RED/BK - GREEN TRACER	MAIN B-3
11	LTE / UMTS	850/1900	C3	RRH-C3	LTE/UMTS-850/1900-C-RRH-C3	DC TRUNK #3 RED/BK - BLUE TRACER	FUTURE 4
12	SPARE	-	C3	-	SECTOR C SPARE	DC TRUNK #4 RED/BK - BLUE TRACER	FUTURE 4




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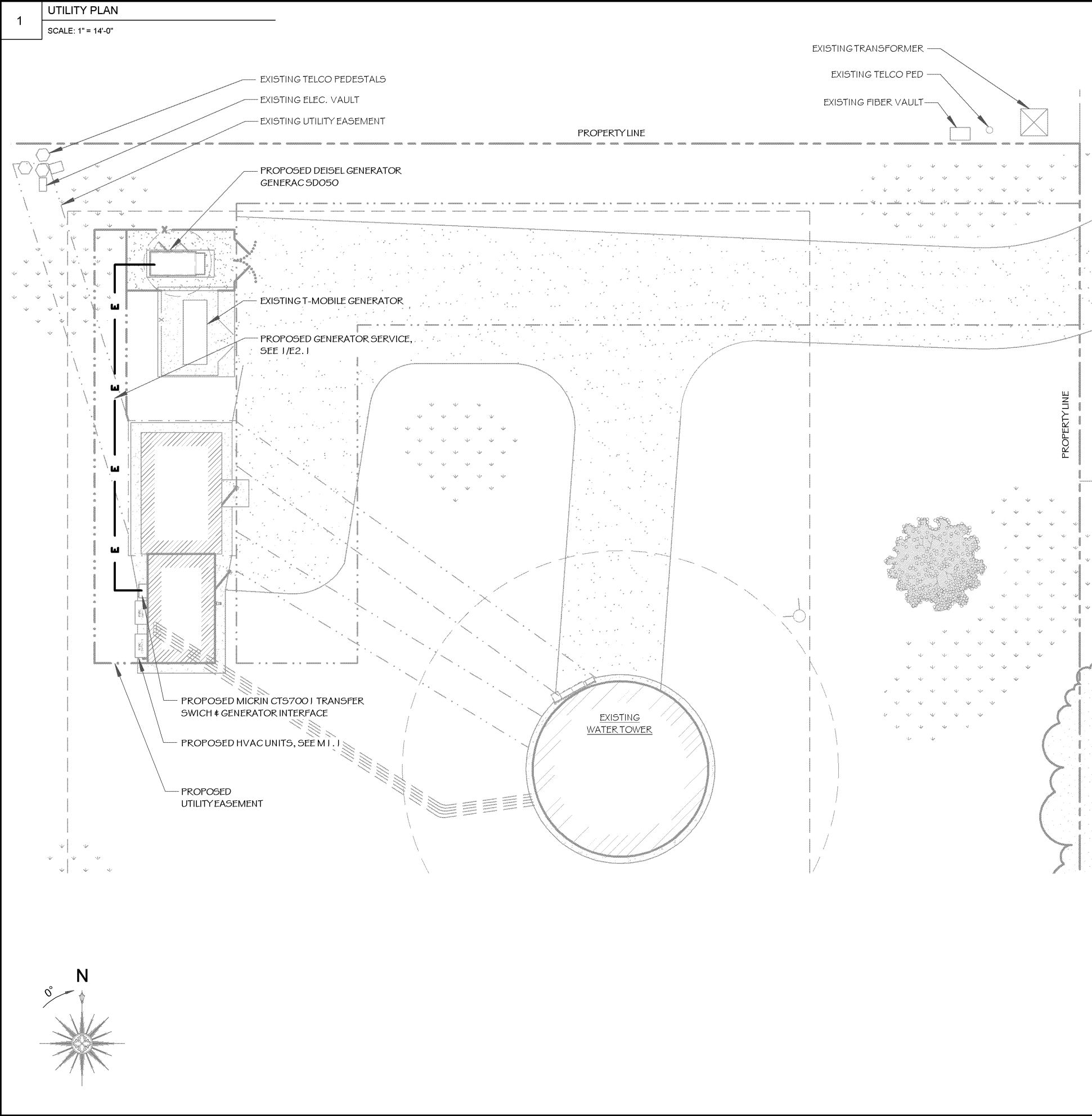
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WATER TOWER

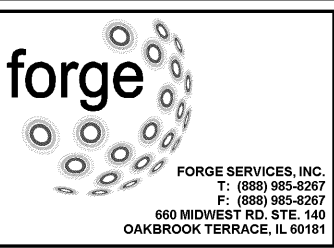
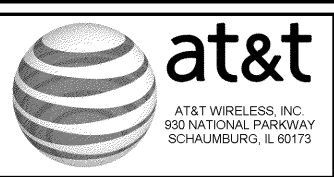
RF SCHEDULE

RF1.1

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- GENERAL NOTES:
1. PROVIDE 2 PULL STRINGS SECURELY FASTENED AT EACH END OF ALL CONDUITS. THE PULL STRINGS ARE TO BE 200 LB. TEST POLYETHYLENE CORD. PROVIDE CAP ON THE END OF EACH CONDUIT AND MARK AS SHOWN ON THIS SITE PLAN.
2. THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING UNDERGROUND POWER, TELCO, GROUNDING CONDUITS, AND ALL OTHER UTILITIES EASEMENTS AND/OR WIRES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UNDERGROUND SERVICES OR SYSTEMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. VERIFY WITH UTILITY NEW SERVICE HAS BEEN APPLIED FOR. THERE SHALL BE NO SPLICING OF GROUND CONDUCTORS BELOW GRADE.
3. UTILITY RACK AND CONDUIT SIZES TO BE FIELD DETERMINED BY CONTRACTOR IN ACCORDANCE WITH THE LOCAL JURISDICTION.
4. CONTRACTOR TO VERIFY IN FIELD AND PRIOR TO BID THAT EXISTING PULL BOXES, METER SOCKETS, CONDUITS, ROUTING, AND FACILITIES ARE ARE OF SUFFICIENT CONDITION.
5. THE OWNER OF THE COMMUNICATIONS FACILITY BEING INSTALLED AGREES TO OBTAIN AGREEMENT FROM THE PROPERTY OWNER ON THE SIZE AND LOCATION OF THE NEW UTILITY EASEMENTS
- SERVICE NOTES:
- A. ELECTRICAL PLANS, DETAILS, AND DIAGRAMS ARE DIAGRAMMATIC ONLY; VERIFY EXACT LOCATIONS AND MOUNTING HEIGHTS WITH OWNER; PLACEMENT AND ROUTING OF ALL COMPONENTS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES
- B. SERVICE EQUIPMENT SHALL HAVE A FAULT WITHSTAND RATING EQUAL TO OR EXCEEDING THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SUPPLY TERMINAL. INSTALLATION SHALL BE FREE FROM ALL FAULTS AND GROUNDS
- C. ALL ELECTRICAL EQUIPMENT, CONDUITS, AND SUPPORT SHALL BE ABLE TO WITHSTAND 90 M.P.H. WIND SPEED; EXPOSURE C
- D. ALL ELECTRICAL EQUIPMENT SHALL HAVE A AFFIXED NEOPRENE PLASTIC LABEL - BLACK ON WHITE; LETTER HEIGHT SHALL BE 1/4"; ALL NAMEPLATES TO BE FASTENED WITH (2) STAINLESS STEEL SCREWS, NOT ADHESIVE
- E. ALL WIRING SHALL BE COPPER WITH THHN/THWN DUAL RATED 600V, COLOR CODED, #12 AWG MINIMUM UNLESS NOTED OTHERWISE
- CONDUIT NOTES:
- F. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH GALVANIZED ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS, OR EXPOSED ON BUILDING EXTERIOR.
- G. ELECTRICAL METALLIC TUBING SHALL BE U.L. LABEL; FITTING SHALL BE GLAND RING COMPRESSION TYPE
- H. CORING THROUGH FLOORS AND WALLS SHALL NOT BE DONE WITHOUT FINAL APPROVAL OF BUILDING OWNER OR OWNER REPRESENTATIVE
- I. CORING SHALL NOT BE PERFORMED DURING WORKING HOURS UNLESS OTHERWISE APPROVED BY THE OWNER
- GENERAL NOTES:
- J. SUBMITTAL OF BID INDICATES CONTRACTOR IS FAMILIAR WITH ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED AS DETAILED AND OUTLINED IN THESE DRAWINGS
- K. THE ELECTRICAL PORTION OF THESE DRAWINGS IS ONLY A PART OF THE OVERALL DESIGN. IT IS NECESSARY FOR THE ELECTRICIAN TO CONSIDER ALL ASPECTS OF THIS PROJECT WHEN BIDDING AND PLANNING THE WORK
- L. IN THE EVENT OF A CONFLICTING DESIGN OR NOTATION, THE CONTRACTOR SHALL ASSUME THE MOST EXPENSIVE OR RESTRICTIVE METHOD UNTIL A CLARIFICATION IS MADE
- M. ALL THINGS, WHICH IN THE OPINION OF THE CONTRACTOR ARE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, OR AMBIGUITIES, IN THESE DESIGN DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE SUBMISSION OF BID; ALL CLARIFICATIONS MUST BE RECEIVED IN WRITING IN ORDER FOR THE MATTER TO BE CONSIDERED RESOLVED
- N. ELECTRICAL WORK SHALL INCLUDE BUT NOT LIMITED TO ALL MATERIALS AND LABOR TO COMPLETE ALL ELECTRICAL SYSTEMS INCLUDING LIGHTING, LOW VOLTAGE SYSTEMS, PANELS, POWER AND TELEPHONE DATA SERVICE, CONTROL WIRING, AND GROUNDING
- O. ALL WORK TO BE EXECUTED IN A WORKMAN LIKE MANNER AND SHALL PRESENT A NEAT, UNIFORM, AND WELL INSTALLED APPEARANCE; THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROTECTION, CLEAN-UP AND RESTORATION OF OWNER FACILITIES ASSOCIATED WITH THE WORK
- P. SUBMITTAL OF BID IMPLIES CONTRACTOR IS AWARE AND WILL CONFORM TO ALL LOADING AND UNLOADING RESTRICTIONS, ELEVATOR RESTRICTIONS, AND UNDERSTANDS OWNER EXPECTATION REGARDING TO THE SCHEDULE OF CORING AND OTHER TENANT IMPACTING ACTIVITIES
- Q. CONTRACTOR TO VERIFY ACCEPTANCE OF THESE PLANS AND DESIGNS WITH THE LOCAL UTILITY COMPANY ENGINEER BEFORE THE START OF ANY WORK AND ORDERING OF ANY MATERIAL
- R. CONTRACTOR TO VERIFY OWNER APPROVAL OF ANY PLANNED OUTAGES PRIOR TO SUBMITTAL OF BID



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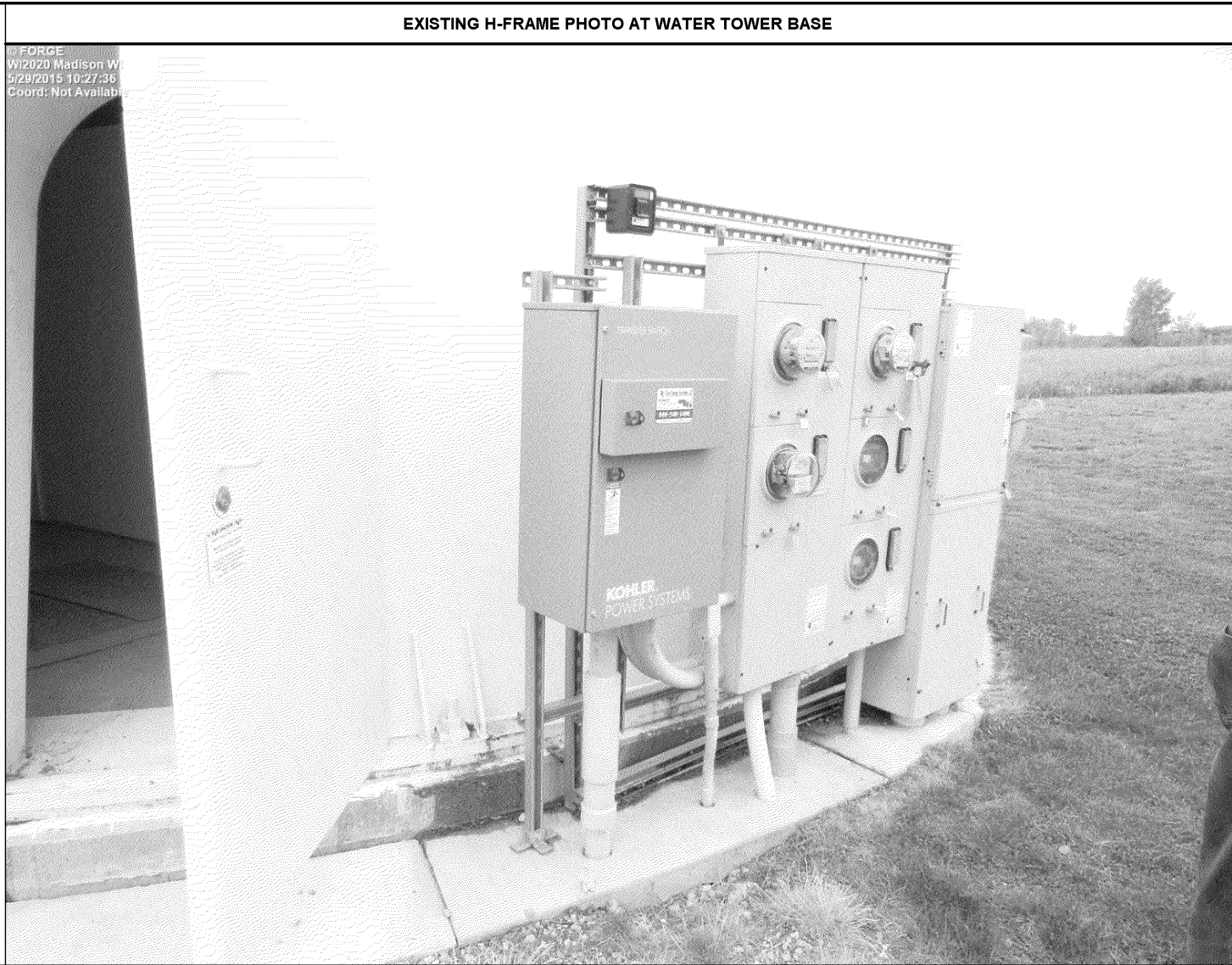
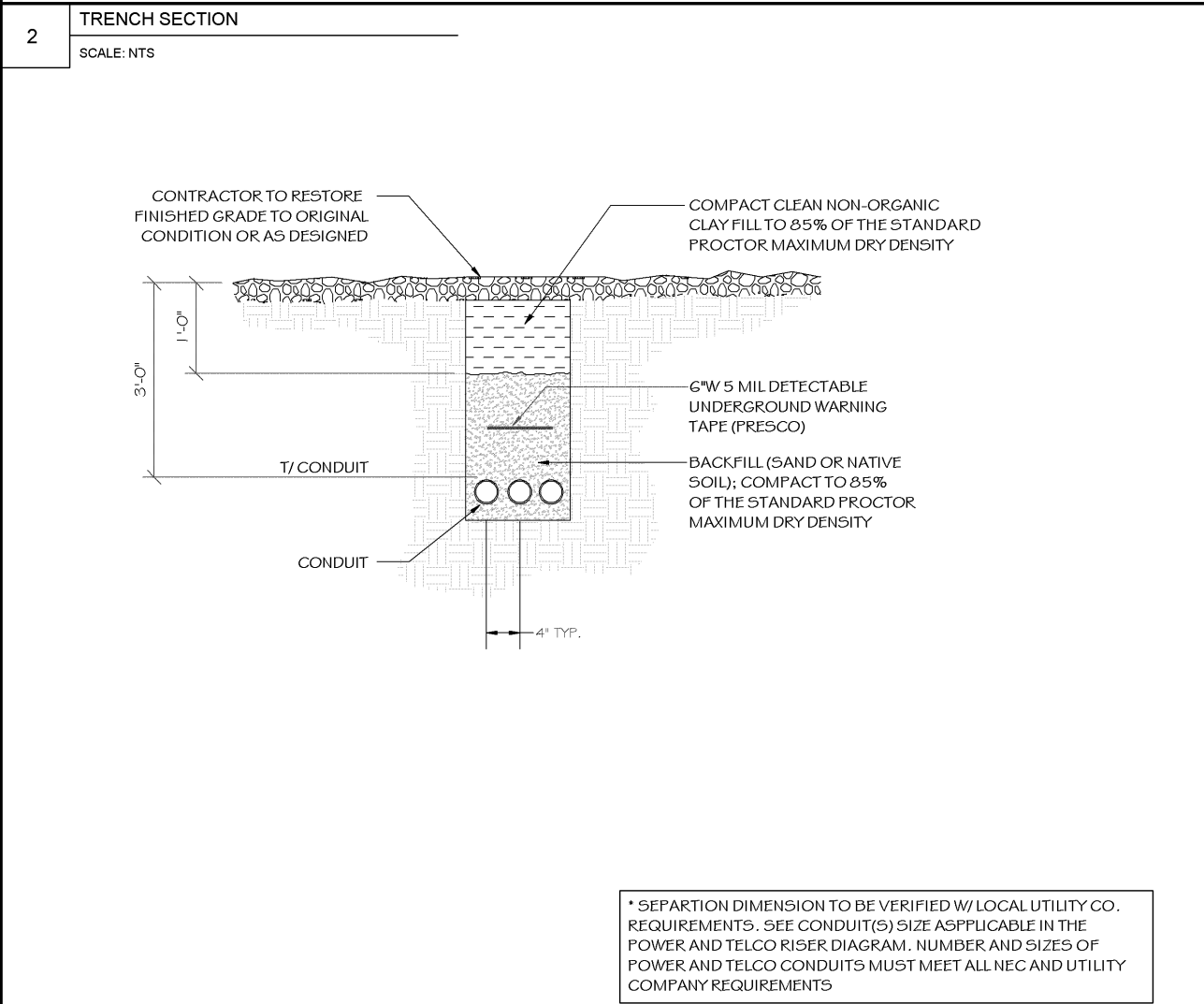
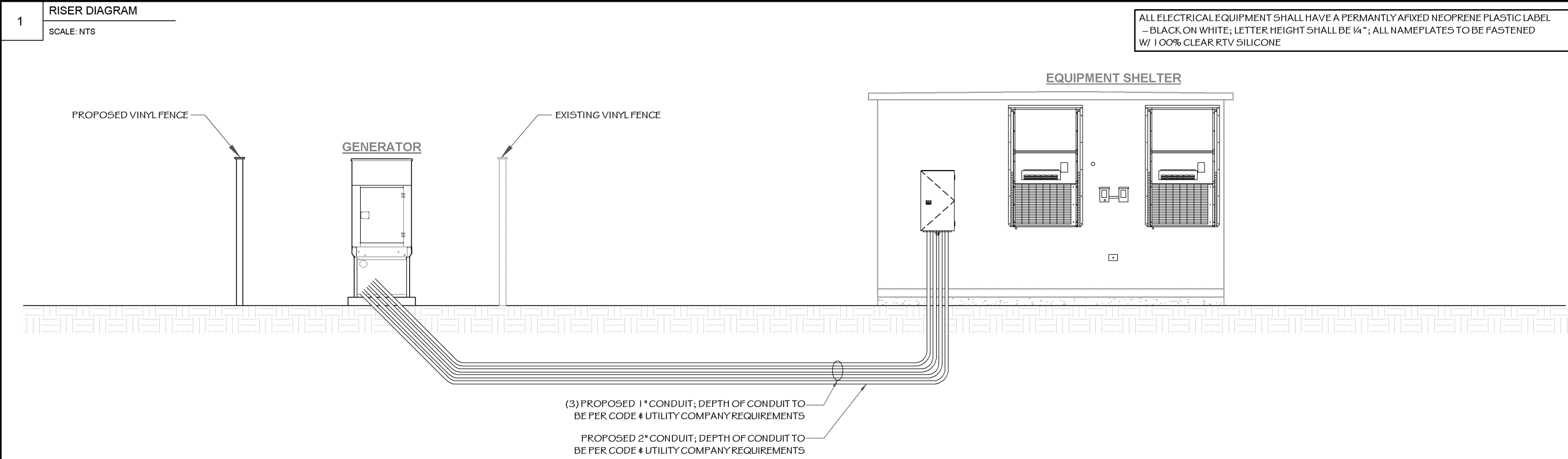
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WATER TOWER

UTILITY PLAN

E1.1


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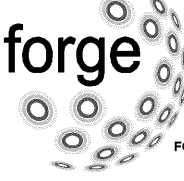
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WATER TOWER

UTILITY RISER

E2.1

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### ALARM TERMINATION DIAGRAM

SCALE: NTS

### ALARM TERMINATION DIAGRAM (FOR REFERENCE ONLY)

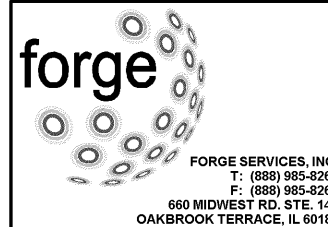
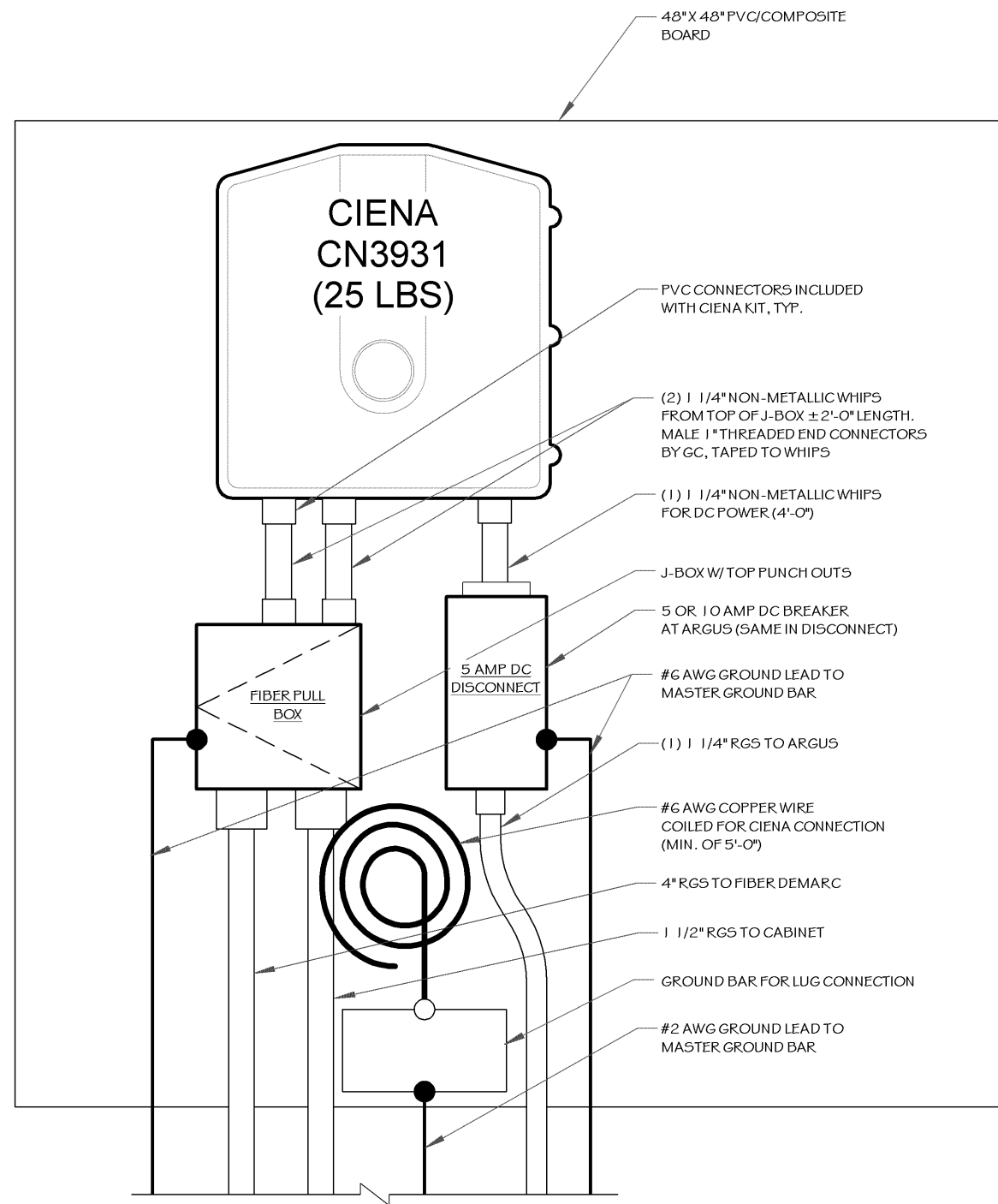
POS.	FROM BTS	ALARM DEFINITION	LEVEL / ID	STATE	ALARM SIDE	DEVICE
1	WHITE / BLUE	SITE DOOR OPEN	I / 0	BREAKING	FACTORY INSTALLED	FACTORY INSTALLED
2	BLUE / WHITE					
3	WHITE / ORANGE	HI TEMP RADIO ROOM	I / 1	BREAKING	FACTORY INSTALLED	FACTORY INSTALLED
4	ORANGE / WHITE					
5	WHITE / GREEN	AC SURGE ARRESTOR FAIL	I / 2	BREAKING	FACTORY INSTALLED	FACTORY INSTALLED
6	GREEN / WHITE					
7	WHITE / BROWN	SMOKE DETECTOR	I / 3	BREAKING	FACTORY INSTALLED	FACTORY INSTALLED
8	BROWN / WHITE					
9	RED / BLUE	AC DISTRIBUTION FAIL	I / 4	BREAKING	FACTORY INSTALLED	FACTORY INSTALLED
10	BLUE / RED					
11	RED / ORANGE	LOW TEMP RADIO ROOM	I / 5	BREAKING	FACTORY INSTALLED	FACTORY INSTALLED
12	ORANGE / RED					
13	RED / GREEN	24V BAT. DISCONNECT FAIL	I / 6	BREAKING	WHITE / BLUE	NC COMMON
14	GREEN / RED				BLUE / WHITE	
15	RED / BROWN	RECT. SYSTEM A1 ALARM PECO	I / 7	BREAKING	VIOLET / GREEN	MODULAR PLUG
16	BROWN / RED				VIOLET / ORANGE	
17	BLACK / BLUE	RECT. SYSTEM A2 ALARM PECO	I / 8	BREAKING	YELLOW / BROWN	MODULAR PLUG
18	BLUE / BLACK				YELLOW / SLATE	
19	BLACK / ORANGE	OVER VOLTAGE PECO	I / 9	BREAKING	WHITE / BROWN	MODULAR PLUG
20	ORANGE / BLACK				WHITE / SLATE	
21	BLACK / GREEN	BATTERY ON DISCHARGE PECO	I / A	BREAKING	RED / ORANGE	MODULAR PLUG
22	GREEN / BLACK				RED / GREEN	
23	BLACK / BROWN	FUSE FAIL TELCO	I / B	BREAKING	WHITE / BLUE	MODULAR PLUG
24	BROWN / BLACK				BLUE / WHITE	
25	YELLOW / BLUE	TMA TROUBLE	I / C	BREAKING	WHITE	MODULAR PLUG
26	BLUE / YELLOW				BLUE	
27	YELLOW / ORANGE	WHITE STROBE FAIL	I / D	BREAKING	WHITE / BLUE	NC COMMON (PUNCHDOWN BY CONTRACTOR)
28	ORANGE / YELLOW				BLUE / WHITE	
29	YELLOW / GREEN	RED STROBE FAIL	I / E	BREAKING	WHITE / ORANGE	NC COMMON (PUNCHDOWN BY CONTRACTOR)
30	GREEN / YELLOW				ORANGE / WHITE	
31	YELLOW / BROWN	SIDE LIGHT FAILURE	I / F	BREAKING	WHITE / GREEN	NC COMMON (PUNCHDOWN BY CONTRACTOR)
32	BROWN / YELLOW				GREEN / WHITE	

NOTE:

1. SCHEDULE FOR REFERENCE ONLY. CONTRACTOR TO VERIFY ITS CONTENTS.
2. POSITIONS NOT SHOWN IN SCHEDULE ARE FOR FUTURE USE.
3. CONTRACTOR TO RUN CAT5 CABLE FROM EQUIPMENT TO TERMINAL ON G6 BLOCK; LEAVE COILED AT G6 BLOCK FOR AT LEAST TO TERMINATE
4. CAT 5 CABLE TO RUN ALONG CABLE TRAY WITH TIE WRAPS; CUT TIE WRAPS WITH SHARP EDGES POINTED UPWARD. CAT 5 CABLE TO BE SECURED WITH STAPLES

### CIENA MOUNTING DIAGRAM

SCALE: NTS



FORGE PROJECT NO: 6657

DRAWN BY: AW, TL

CHECKED BY: FB

[illegible]

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WI2020  
CITY OF FITCHBURG

2827 COMMERCE PARK DR  
FITCHBURG, WI 53719

WATER TOWER

## ALARM TERMINATION

### E3.1



NOTE:  
THE DATA SHOWN ON THIS SHEET IS  
PRELIMINARY AND IS FOR REFERENCE ONLY.  
A MECHANICAL DESIGN SHOULD BE PERFORMED  
PRIOR TO CONSTRUCTION.

INTERIOR DEFLECTION GRILLES TYPE 'HV/VH'  
BY MARVAIR; TYP. OF (2)

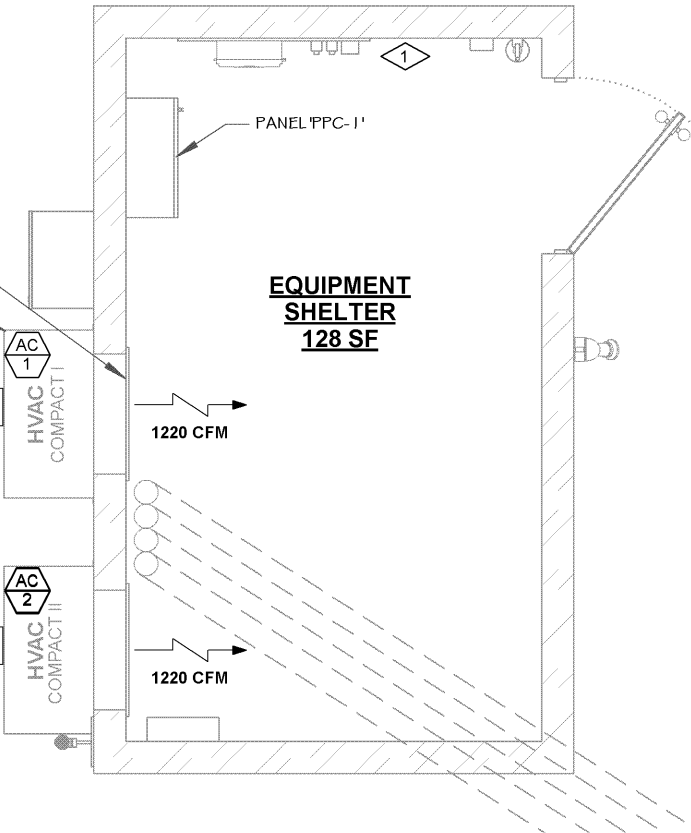
NEW WALL MOUNTED 3-TON HVAC UNIT;  
MARVAIR #AVP36ACA; TYP. OF 2

TO PANEL 'PPC-1'  
(2) #8, (1) #8  
GREEN GROUND  
1-2P 40A CB  
CKT #2&4

(2) #10, (1) #10  
GREEN GROUND  
1-1P 20A CB  
CKT #7

TO PANEL 'PPC-1'  
(2) #8, (1) #8  
GREEN GROUND  
1-2P 40A CB  
CKT #2&4

(2) #10, (1) #10  
GREEN GROUND  
1-1P 20A CB  
CKT #7



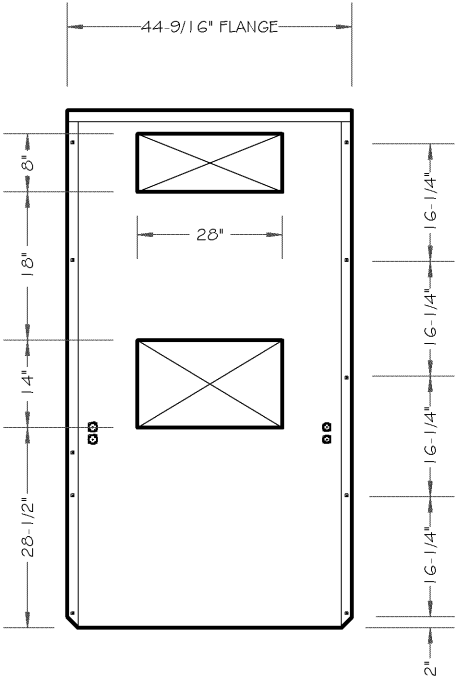
UNIT DATA												
TAG	INSTALL TYPE	MFR. / MODEL NO.	MODEL TYPE	AREA SERVED	AIR FLOW (CFM)	CAPACITY (TONS)	SIZE (BTU/H)	HEATING CAPACITY	OPER. WEIGHT	ELECTRIC		
										VOLTS/PHASE/HZ	MIN CA	MAX OCP
AC 1	NEW	MARVAIR #AVP36ACA	COMPAC I	EQUIPMENT ROOM	1220	3	36,000	NONE	355 LBS	208-230/ 60	2.5 AMPS	40 AMP
AC 2	NEW	MARVAIR #AVP36ACA	COMPAC II (W/ ECONOMIZER)	EQUIPMENT ROOM	1220	3	36,000	NONE	365 LBS	208-230/ 60	2.5 AMPS	40 AMP

1 NEW THERMOSTAT WITH AUTOCHANGOVER/LEAD-LAG CONTROL; COMMSTAT3 CONTROLLER (#5/04581) SET THERMOSTAT AT 75° COOLING AND 40° HEATING

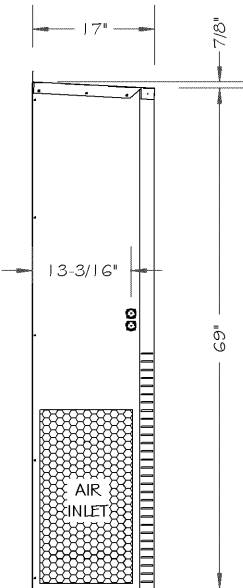
NOTE:  
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MECHANICAL NOTES:

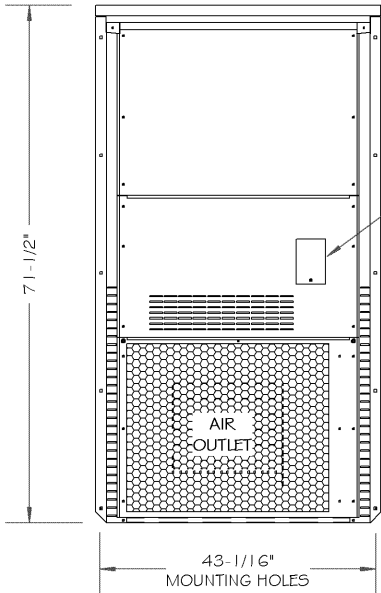
- WARRANTY SHALL CONFORM TO THE STANDARD CONTRACT BETWEEN OWNER AND GENERAL CONTRACTOR BUT SHALL BE FOR AT LEAST 2-YEARS AFTER THE DATE OF WRITTEN FINAL ACCEPTANCE OR FIRST DAY OF OPERATIONAL USE OF CELL SITE.
- DESIGN AND CONFIGURATION OF ALL PIPING, SUPPORTS, TEMPERATURE CONTROLS, DUCTS, MOUNTING, SEQUENCING, AND OTHER RELATED COMPONENTS SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS. WHEN SAID RECOMMENDATIONS CONFLICT WITH THESE DESIGNS CONTRACTOR SHALL OBTAIN WRITTEN DIRECTION FROM ARCHITECT FOR PROCEEDING.
- ALL DEVIATIONS FROM THE DESIGN DRAWINGS SHALL BE APPROVED BEFORE SUBMISSION OF BID.
- ALL CONDENSATE DRAINS SHALL BE INDIRECT AND SHALL NOT BE ROUTED OVER ANY ELECTRONIC EQUIPMENT.
- CONTRACTOR SHALL SUBMIT FOR, PAY, AND OBTAIN ALL SPECIAL PERMITS AND INSPECTIONS REQUIRED FOR THIS WORK – OWNER WILL ONLY SUPPLY THE GENERAL BUILDING PERMIT.
- AFFIX MAINTENANCE LABEL TO SIDE OF EACH AIR HANDLER.
- ALL WALL, FLOOR, AND CEILING PENETRATIONS SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES AND ORDINANCES.



WALL MOUNT ELEVATION

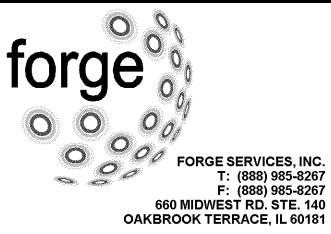


SIDE ELEVATION



REAR ELEVATION

CIRCUIT BREAKER ACCESS



FORGE PROJECT NO: 6657  
DRAWN BY: AW, TL  
CHECKED BY: FB

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A	8/2/2015	ISSUED FOR V.1 LE
B	7/14/2015	ISSUED FOR V.1 90 CD'S

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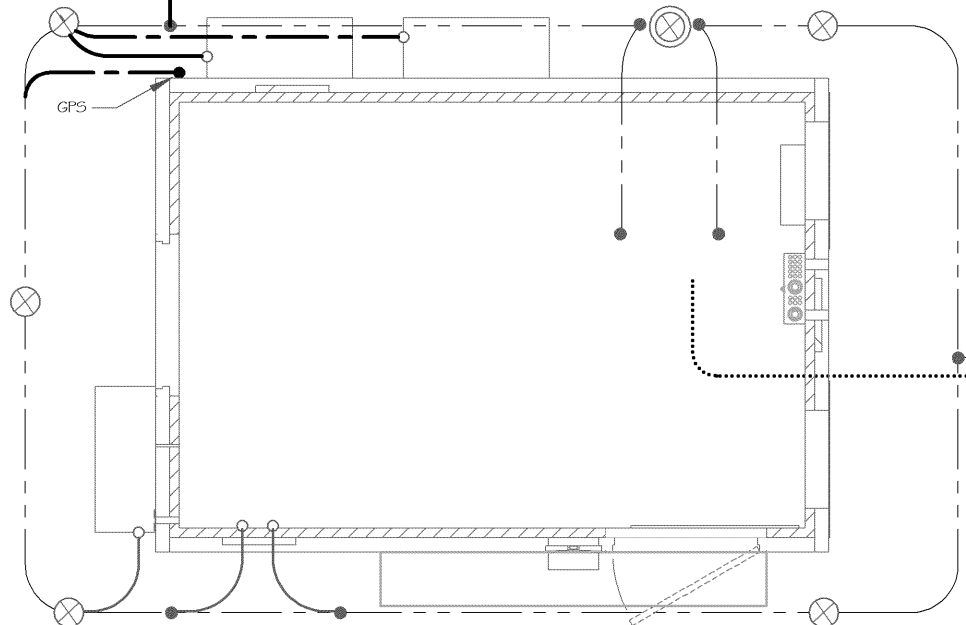
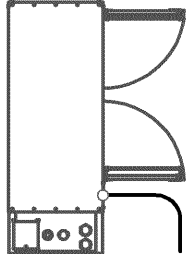
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WATER TOWER

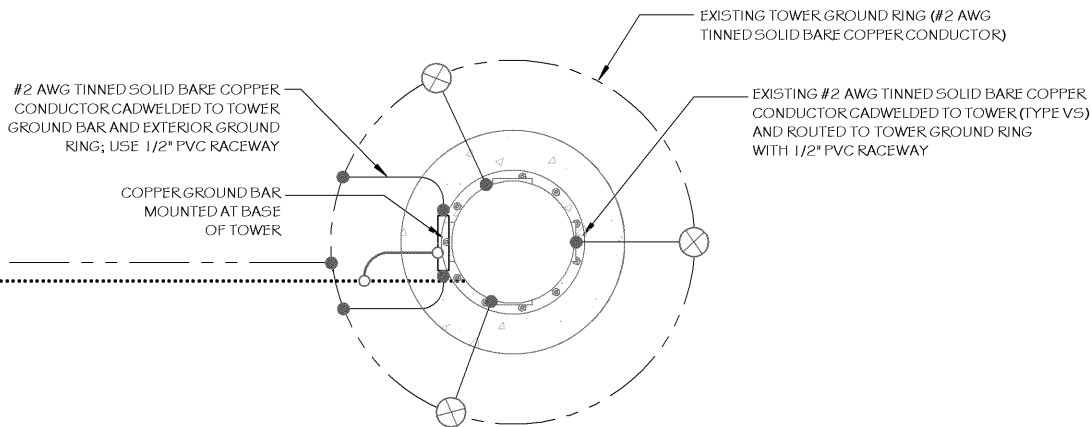
MECHANICAL PLAN

M1.1



NOTES:

- A. FOR NUMBER OF GROUNDING RODS REQUIRED REFER TO SPECIFICATION 16000 & SSCP REQUIREMENT.
- B. ALL GROUND BARS TO BE TINNED COPPER
- C. LOCATION OF THE MIG'S TO BE DETERMINED IN FIELD AND MAY BE LOCATED AND SUPPORTED AS CLOSE TO EQUIPMENT AS FEASIBLE AND PRACTICAL TO ACHIEVE THE DESIGNED CONFIGURATIONS.
- D. ALL STEEL WITHIN 6' OF SITE SHALL BE GROUNDED



## EXISTING WATER TOWER

GROUNDING NOTES:

- A. GROUNDING BAR MOUNTED ON TOWER FOR ANTENNA GROUNDING REQUIREMENTS. COORDINATE MOUNTING AND LOCATION WITH ANTENNA PLACEMENT.
- B. 4/0 AWG GREEN INSULATED CONDUCTOR FROM ANTENNA GROUND BAR TO GROUND BAR MOUNTED AT TOWER BASE ON STRUCTURE.
- C. BOND FENCE POST TO GROUND RING AS SHOWN USING EXOTHERMIC WELD. BOND FENCE GATE TO POST WITH A FLEXIBLE COPPER JUMPER STRAP, ERICO #FJ2G24 OR BURNDY TYPE "B", PROVIDE EXOTHERMIC WELDS AND ANY NECESSARY ACCESSORIES TO BOND STRAP TO GATE AND FENCE POST. PROVIDE LENGTH AS REQUIRED TO MAKE CONNECTION.
- D. THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING UNDERGROUND POWER, TELCO, GROUNDING CONDUITS, AND ALL OTHER UTILITIES EASEMENTS AND/OR WIRES.

PRIOR TO TRENCHING, ANY DAMAGE CAUSED TO THE EXISTING UNDERGROUND SERVICES OR SYSTEMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. VERIFY WITH UTILITY NEW SERVICE HAS BEEN APPLIED FOR. THERE SHALL BE NO SPlicing OF GROUND CONDUCTORS BELOW GRADE.

- E. ALL GROUNDING CABLE IN CONCRETE SHALL BE IN PVC OR NON-METALLIC SEAL-TIGHT. NO METALLIC CONDUIT IS TO BE USED FOR GROUNDING CONDUCTOR SLEEVES.
- F. DO NOT INSTALL BURIED GROUND RING OUTSIDE OF PROPERTY LINE. NOTIFY THE CONSTRUCTION MANAGER 24 HOURS IN ADVANCE WHEN THE BURIED GROUND RING IS INSTALLED SO THAT A REPRESENTATIVE CAN INSPECT THE GROUND RING BEFORE IT IS BACK FILLED WITH SOIL.

- G. ALL EXTERIOR GROUNDING CONDUCTORS SHALL CONFORM TO SECTION 4.1 OF SSEO 3.018.02.004.

- H. ALL EXOTHERMIC WELDS TO BURIED GROUND RING SHALL BE THE PARALLEL TYPE, EXCEPT FOR THE GROUND RODS WHICH ARE SPICE EXOTHERMIC WELDS.
- I. ALL CADWELDS SHALL BE COLD GALVANIZED EXCEPT FOR COPPER TO COPPER. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING.
- J. WHERE MECHANICAL CONNECTORS (TWOHOLE OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF KOPRSCHILD OR BURINDY PENTROX-E ANTI-OXIDE COMPOUND ON ALL CONNECTORS. PROVIDE LOCK WASHERS ON ALL MECHANICAL CONNECTORS. NO OTHER ANTIOXIDANT IS ACCEPTABLE. USE STAINLESS STEEL HARDWARE THROUGHOUT. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS. REPAINT TO MATCH EXISTING AFTER CONNECTION IS MADE TO MAINTAIN CORROSION RESISTANCE. ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE TYPES OF METALS BEING ATTACHED TO.

- K. EXOTHERMICALLY WELD GROUNDING CONDUCTOR TO COMMUNICATION STRUCTURE AT POLE-BASE FLANGE AND BOND TO BURIED GROUND SYSTEM WITHIN A 3/4" FLEXIBLE CONDUIT SLEEVE. VERIFY BEND IS 45 DEGREES FROM GROUND TO POLE.
- L. THE TOP OF THE UTILITY METER GROUND ROD SHALL BE 6" ABOVE THE SUB-GRADE OR PER LOCAL JURISDICTION REQUIREMENTS.
- M. CONTRACTOR SHALL PERFORM MEG TEST (GROUND RESISTANCE) ON THE GROUNDING SYSTEM. THESE TESTS SHALL BE OBSERVED BY THE CONSTRUCTION MANAGER. GROUND FIELD READING SHALL BE 5 OHMS MAXIMUM, OR ADDITIONAL GROUNDING METHODS APPLIED. SEE SSEO 3.018.10.002.
- N. ALL GROUND RODS AND GROUNDING SYSTEM SHALL COMPLY WITH SSEO 3.018.10.002.

- O. ALL CONDUCTORS SHALL BE COPPER TYPE THWN INSULATION UNLESS OTHERWISE NOTED.
- P. ALL GROUNDING SYSTEM CONDUCTORS AND CONNECTIONS BELOW GRADE SHALL BE THERMAL WELDS AT GROUND RODS AND SHALL BE A MINIMUM OF 30" BELOW GRADE OR 6" BELOW FROST LINE, WHICHEVER IS DEEPER.
- Q. GROUNDING SHALL BE IN ACCORDANCE WITH THE FOLLOWING AT&T PROJECT NUMBER PRACTICES (AS REQUIRED):  
R. S5EO 3.018.02.004 BOUNDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES.
- R. S5EO 3.018.10.002 SITE RESISTANCE TO EARTH TESTING (3 POINT FALL OF POTENTIAL).
- S. REFER TO DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

- T. A MINIMUM OF 2 TEST RUNS SHALL BE MADE AT 90° (100 FOOT RUNS). TEST RESULTS SHALL BE GIVEN TO THE CONSTRUCTION MANAGER.
- U. SEE AT&T STANDARD CONSTRUCTION SPECIFICATION FOR MORE DETAILS.
- V. PROVIDE FOR ALL OTHER ADDITIONAL GROUNDING CONNECTIONS WHICH MAY BE REQUIRED AT THE SITE (I.E. FENCES, GATES METAL EQUIPMENT, ELECTRICAL SERVICE SYSTEMS, ETC.) TO COMPLY WITH ALL STAT LOCAL CODES, AND THE NATIONAL ELECTRICAL CODE 2008.
- W. ALL GROUNDING CONNECTIONS AND INSTALLATIONS SHALL BE MADE BY ELECTRICAL CONTRACTOR IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS AND THE NATIONAL ELECTRICAL CODE 2008.

DRAWN BY: **AW, TL**

CHECKED BY: FB

[illegible]

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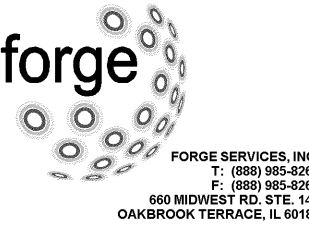
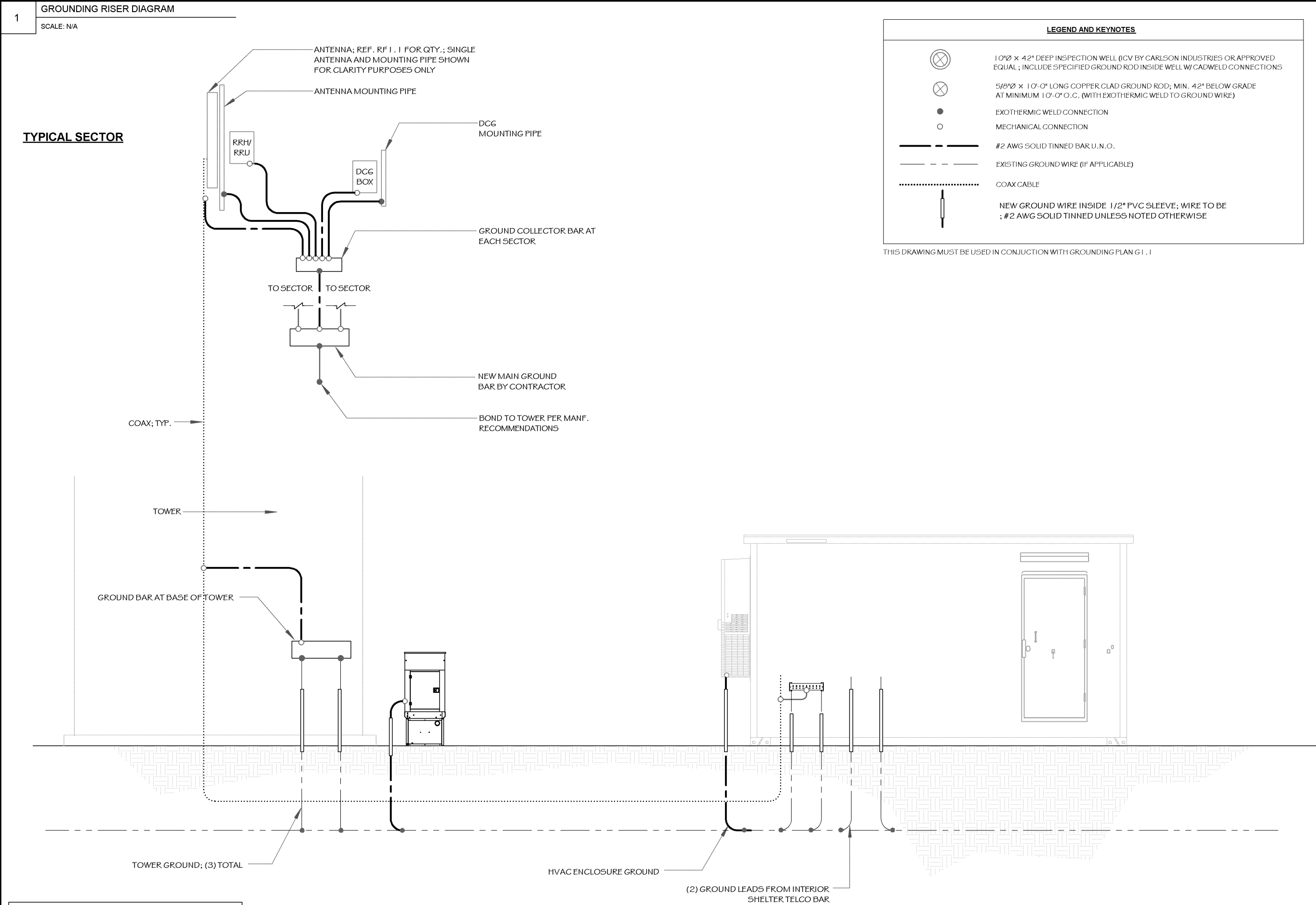
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FITCHBURG, WI 53719

# WATER TOWER

## GROUNDING PLAN

## G1.1



FORGE PROJECT NO: 6657

DRAWN BY: AW, TL

CHECKED BY: FB

REV	DATE	DESCRIPTION
A	8/2/2015	ISSUED FOR V.1 LE
B	7/14/2015	ISSUED FOR V.1 90 CD'S

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FITCHBURG, WI 53719

WATER TOWER

GROUNDING RISER

G2.1

THIS DRAWING IS SCALED FOR 11"x17" PAPER (U.S. GOVT. "TABLOID")



PART I GENERAL

I.01 CARRIER REPRESENTATIVE

- A. THE SITE DEVELOPMENT MANAGER (SDM) OR HIS DESIGNEE (INCLUDING BUT NOT LIMITED TO THE ARCHITECT/ENGINEER, OR CONSTRUCTION MANAGER) SHALL SERVE AS THE SINGLE POINT OF CONTACT.
- B. BETWEEN THE CONTRACTOR AND OWNER, NOT WITHSTANDING THE REQUIREMENTS SPECIFIED HEREIN, THE SDM OR DESIGNATED REPRESENTATIVE IS EMPOWERED TO DIRECT THE CONTRACTOR TO VARY OR CHANGE FROM THE PLANS AND SPECIFICATIONS AS CIRCUMSTANCES OR CONDITIONS ARISE.
- C. CONTRACTOR SHALL VERIFY ALL CHANGES ARE ACCEPTED BY THE ENGINEER OF RECORD.

I.02 INTENT

- A. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND COMPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH.

- B. THESE SPECIFICATIONS AND DESIGN DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE PERFORMED AND THE MATERIALS TO BE FURNISHED FOR THE CONSTRUCTION OF THE PROJECT.

- C. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS INDICATED IN THE DOCUMENTS.

- D. THE PURPOSE OF THE SPECIFICATIONS IS TO SUPPLEMENT THE INTENT OF THE DRAWINGS AND TO DESIGNATE A PROCEDURE, TYPE, OR QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.

- E. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. HOWEVER, NO CHANGES THAT ALTER THE CHARACTER INTENT OF THE DESIGN WILL BE MADE OR PERMITTED WITHOUT A CHANGE ORDER FROM THE OWNER.

I.03 CONFLICTS

- A. THE CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR PERFORMING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSION AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSIONS WHICH MAY INADVERTENTLY OCCUR SHALL BE SUBMITTED TO THE SDM OR DESIGNATED REPRESENTATIVES FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH WORK IN THE AFFECTED AREAS.

- B. THE CONTRACTOR, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING WHICH THE CONTRACTOR MIGHT NOT HAVE FULLY INFORMED HIMSELF PRIOR TO BIDDING.

- C. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES THAT MAY BE ENCOUNTERED OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED WILL BE ACCEPTED AS A REASON FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL THE REQUIREMENTS OF THE CONTACT DOCUMENTS.

I.04 BIDDING PROCESS -- INSTRUCTIONS TO BIDDERS

- A. CARRIER REQUESTS A FIRM LUMP SUM BID FOR ALL WORK DESCRIBED IN THE CONTRACT, AS INDICATED IN THESE CONSTRUCTION DRAWINGS/SPECIFICATIONS, APPARENT WITH FIELD VISIT, AND ACCORDING TO ANY OTHER AGREEMENTS AND DIRECTION.

- B. BIDDER WILL GUARANTEE BIDS FOR 60 DAYS FROM BID DUE DATE. BIDS SHALL INCLUDE ALL APPLICABLE STATE AND FEDERAL TAXES.

- D. PROPOSAL: (AS OUTLINED IN BID DOCUMENTS) IT IS UNDERSTOOD BY OWNER, THAT THE BIDDER IN SUBMITTING HIS BID, WARRANTS THAT HE HAS:

- A. CAREFULLY EXAMINED THE SITE OF THE PROJECT TO ACQUAINT HIMSELF WITH:
- 1) SURROUNDING PROPERTIES.
  - 2) MEANS OF APPROACH TO THE SITE.
  - 3) CONDITIONS OF THE ACTUAL JOB SITE.
  - 4) FACILITIES FOR DELIVERING, STORING, PLACING, HANDLING AND REMOVAL OF MATERIALS AND EQUIPMENT.
  - 5) ANY AND ALL DIFFICULTIES THAT MAY BE ENCOUNTERED DURING THE EXECUTION OF ALL WORK IN ACCORD WITH THE CONTRACT DOCUMENTS.

I.05 CONTRACTS AND WARRANTIES

- A. ABBREVIATED FORM OF AGREEMENT BETWEEN CARRIER REPRESENTATIVE AND CONTRACTOR MAY BE USED AND WILL BE EMPLOYED FOR CONTRACT PURPOSES.
- B. UNLESS ARRANGED OTHERWISE, EACH CONTRACTOR IS RESPONSIBLE FOR FILING THE BUILDING PERMIT AT THE LOCAL JURISDICTION AS THE CONTRACTOR OF RECORD, AND PROVIDE JURISDICTION WITH ALL PROOF REQUIRED TO OPERATE AS A CONTRACTOR IN THAT JURISDICTION.
- C. THE CONTRACTOR SHALL BE REIMBURSED, AT FACE VALUE, FOR THE AMOUNT OF ANY FEE PAID AS FOLLOWS:
1. PLAN REVIEW FEE.
  2. BUILDING PERMIT FEE.
  3. CONNECTIONS AND INSPECTION FEES.
- EACH CONTRACTOR IS RESPONSIBLE FOR APPLICATION & PAYMENT OF CONTRACTOR LICENSES & BONDS.

I.06 STORAGE

- A. DO NOT USE THE CARRIER EQUIPMENT SPACE FOR STORAGE OF TOOLS OR MATERIALS WITHOUT WRITTEN SDM APPROVAL.

- B. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY LOCATION AND IN A MANNER THAT WILL NOT OBSTRUCT THE FLOW OF OTHER WORK. ANY EQUIPMENT OR MATERIAL STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE MANUFACTURER.

I.07 PROTECTION

- A. PROTECT FINISHED SURFACES, INCLUDING JAMBS AND WALLS USED AS PASSAGEWAYS THROUGH WHICH EQUIPMENT AND MATERIALS WILL PASS.

- B. PROVIDE PROTECTION FOR EQUIPMENT ROOM SURFACES PRIOR TO ALLOWING EQUIPMENT OR MATERIAL TO BE MOVED OVER SUCH SURFACES.

- C. MAINTAIN FINISHED SURFACES CLEAN, UNMARRED AND SUITABLY PROTECTED UNTIL JOB SITE IS ACCEPTED BY THE SDM.

I.08 REPAIRS AND REPLACEMENTS

- A. IN EVENT OF DAMAGES, THE CONTRACTOR SHALL NOTIFY OWNER SDM, THEN PROMPTLY MAKE ALL REPLACEMENTS AND REPAIRS AT NO ADDITIONAL COST TO OWNER.

- B. ADDITIONAL TIME THAT IS REQUIRED TO SECURE REPLACEMENTS AND TO MAKE REPAIRS WILL NOT BE CONSIDERED BY OWNER TO JUSTIFY EXTENSION IN THE CONTRACT TIME FOR COMPLETION.

I.09 TEMPORARY FACILITIES

- A. WATER: WATER IS NOT AVAILABLE TO THE CONTRACTORS ON SITE.

- A. LIGHT AND POWER:
1. LIGHT AND POWER ARE AVAILABLE ON SITE.
  2. TELEPHONE:
  3. EACH CONTRACTOR TO PROVIDE HIS OWN TELEPHONE ACCESS IF REQUIRED.
  4. CONTRACTORS ARE NOT TO USE OWNER PHONES.

- B. IF PERMANENT POWER IS COMPLETED, ALL CONTRACTORS MAY USE THE SERVICE CONNECTION FOR PRODUCTION WORK ONLY, PROVIDED THAT ELECTRICAL CORDS AND CONNECTIONS ARE FINISHED BY CONTRACTORS AND ARE DISCONNECTED AND PROPERLY STORED DURING NON-WORKING HOURS.

I.10 CLEAN UP

- A. THE CONTRACTOR SHALL AT ALL TIMES KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK, AND AT THE COMPLETION OF THE WORK, THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING, INCLUDING ALL TOOLS, SCAFFOLDING AND SURPLUS MATERIALS, AND SHALL LEAVE THE WORK AREA CLEAN AND READY FOR USE

- B. EXTERIOR: VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIAL, DUST, SMUDGES, AND OTHER FOREIGN MATTER.

1. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
2. IF NECESSARY TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.

- C. INTERIOR: VISUALLY INSPECT INTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIAL, SMUDGES AND OTHER FOREIGN MATTER.

1. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
2. REMOVE PAINT DROPPINGS, SPOTS, STAINS AND DIRT FROM FINISHED SURFACES.

- D. CONTRACTOR SHALL WASH AND WAX FLOOR PRIOR TO FINAL ACCEPTANCE FROM SDM. WAX SHALL BE THE ANTI-STATIC TYPE.

I.11 CHANGE ORDER PROCEDURE

- A. CHANGE ORDER MAY BE INITIATED BY THE SDM, AND OR THE CONTRACTOR. THE CONTRACTOR, UPON VERBAL REQUEST FROM THE SDM, SHALL PREPARE WRITTEN PROPOSAL DESCRIBING THE CHANGE IN WORK OR MATERIALS AND ANY CHANGES IN THE CONTRACT AMOUNT AND PRESENT IT TO THE SDM FOR APPROVAL. SUBMIT REQUESTS FOR SUBSTITUTIONS IN THE FORM AND IN ACCORDANCE WITH PROCEDURES REQUIRED FOR CHANGE ORDER PROPOSALS. ANY CHANGES IN THE SCOPES OF WORK OR MATERIALS WHICH ARE PERFORMED BY THE CONTRACTOR WITHOUT A WRITTEN CHANGE ORDER AS DESCRIBED AND APPROVED BY THE SDM SHALL BECOME THE SOLE RESPONSIBILITY OF THE CONTRACTOR

I.12 RELATED DOCUMENTS AND COORDINATION

- A. GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCES OF THE WORK EACH CONTRACTOR JUST REFERS ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR

I.13 SHOP DRAWINGS

- A. CONTRACTOR TO SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS AND THROUGH THE GENERAL CONTRACT TO THE SDM FOR APPROVAL.
- B. SHOP DRAWINGS FOR ALL STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ENGINEER OF RECORD UNLESS SPECIFICALLY NOTED OTHERWISE; CONTRACTOR SHALL NOT FABRICATE STEEL UNTIL DRAWINGS HAVE BEEN ACCEPTED IN WRITING
- C. ALL SHOP DRAWINGS TO BE REVISED, CHECKED AND CORRECTED BY GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE SDM

I.14 PRODUCTS AND SUBSTITUTIONS

- A. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBMISSION. IN EACH REQUEST IDENTIFY THE PRODUCT FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED INSPECTIONS AND DRAWING NUMBERS, AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.

- B. ALL NECESSARY PRODUCT DATA AND CUT SHEETS SHOULD PROPERLY INDICATES AND DESCRIBE ITEMS, PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE SDM, SUBMIT ACTUAL SAMPLES TO THE SDM FOR APPROVAL IN LIEU OF CUT SHEETS.

I.15 COMPLIANCE

- A. ALL MATERIALS, DESIGN AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES (SOME ARE LISTED HEREIN) ORDINANCES, AND AUTHORITIES HAVING JURISDICTION OVER THE WORK. UPON THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROVIDE CARRIER WITH THE CERTIFICATES OF OCCUPANCY (IF REQUIRED), JOB SITE PERMITTED PLANS AND INSPECTION CARD WITH ALL FINAL INSPECTION SIGNATURES AND OTHER LEGAL DOCUMENTS TO VERIFY SUCH COMPLIANCES. WHERE NO CODES EXIST, THE WORK SHALL CONFORM TO THE UNIFORM BUILDING CODE AND/OR THE SPECIFICATIONS HEREIN, WHICHEVER IS MORE STRINGENT AND A DOCUMENT STATEMENT SHALL BE FURNISHED TO THIS EFFECT.

- B. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY COMPLIANCE WITH THE GOVERNING CODES AND TO NOTIFY THE SDM OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.

- C. REFERENCES TO ANY STANDARD OR CODE OF PRACTICES IN THIS SPECIFICATION SHALL BE DEEMED TO MEAN THE EDITION CURRENT AT THE TIME OF AWARD OF THE CONTRACT.

- D. THE CONTRACTOR SHALL COMPLY WITH ALL ZONING AND SITE ACQUISITION SPECIAL STIPULATIONS AS OUTLINED IN THE JOB SPECIFICATIONS, OR AS DIRECTED BY THE SDM.

1. ANSI/EIA - 222 - G
2. INTERNATIONAL BUILDING CODE (IBC)
3. NATIONAL ELECTRICAL CODE (NEC) WITH ALL AMENDMENTS
4. AMERICAN INSTITUTE FOR STEEL CONSTRUCTION OR SPECIFICATIONS (AISC)
5. LIFE SAFETY CODE NFFA - 101
6. FEDERAL AVIATION REGULATIONS

- E. CONTRACT COMPANIES AND THEIR EMPLOYEES SHALL OBSERVE AND PRACTICE ALL OSHA SAFETY GUIDELINES WHILE PERFORMING SERVICE.

- F. TOWER PLATFORM AND ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.

- G. WHERE A TOWER DOES NOT HAVE A PERMANENT FALL PROTECTION SYSTEM, THE CONTRACT COMPANY IS RESPONSIBLE FOR PROVIDING A SUITABLE SYSTEM FOR ITS EMPLOYEES.

- H. GENERAL CONTRACTOR WILL HAVE A QUALIFIED PERSON WITH TOOLS AT THE TIME OF INSTALLATION OF EQUIPMENT.

- I.16 ADMINISTRATION
- B. THE CONTRACTOR SHALL FURNISH TO THE SDM WITH THE NAME AND CONTACT TELEPHONE NUMBERS (MOBILE, PAGER AND RESIDENCE NOTE) OF THE CARRIER APPROVED ON-SITE SUPERVISOR. ANY CHANGES IN SUPERVISION MUST BE REPORTED TO THE SDM IMMEDIATELY AND ARE SUBJECT TO CARRIER APPROVAL.

- I.17 PERMIT AND LICENSES
- A. THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL REQUIRED LOCAL, STATE, AND/OR COUNTY CONSTRUCTION PERMITS AND LICENSES. COPIES OF ALL PERMITS SHALL BE SENT TO SDM. APPROVALS FROM RELEVANT PLANNING BOARD, ENVIRONMENTAL BOARDS, AND/OR OTHER COMMITTEE WILL BE SUPPLIED BY OTHERS, BUT MUST BE CONFIRMED BY THE CONTRACTOR WITH THE SDM PRIOR TO THE APPLICATION FOR CONSTRUCTION PREMISES.

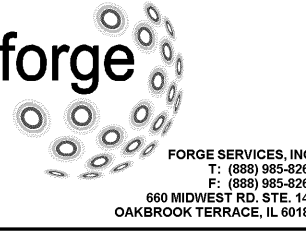
- B. FAA APPROVAL WILL BE SUPPLIED BY OTHERS BUT MUST BE CONFIRMED BY THE CONTRACTOR WITH THE SDM PRIOR TO THE ERECTING OF TOWER (IF APPLICABLE).

- C. FOR CONSTRUCTION SCHEDULING REFER TO THE INSTRUCTIONS PROVIDED BY THE SDM ITEMS TO BE INCLUDED:
1. CLEARING AND GRUBBING
  2. BUILDING PERMIT
  3. SHELTER DELIVERY AND PLACEMENT
  4. BUILDING FOUNDATION EXCAVATION
  5. ACCESS ROAD
  6. COMMERCIAL AC POWER
  7. BUILDING FOUNDATION FORMING
  8. INSPECTIONS
  9. LANDSCAPING
  10. GROUNDING SYSTEM
  11. ANTENNA INSTALLATION

- D. PRIOR TO COMMENCING THE WORK THE GENERAL CONTRACTOR SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES TO THE PROCESS. THIS WOULD INCLUDE (THOUGH NOT LIMITED TO) THE DESIGNATED REPRESENTATIVES OF EACH SUB-CONTRACTOR

- E. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY & VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR QUESTIONS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION & INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL DISCREPANCY IS CHECKED & CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS OWN RISK AND EXPENSES. CONTRACTOR SHALL CALL ALL APPROPRIATE UTILITY COMPANIES 48 HOURS PRIOR TO START OF CONSTRUCTION TO HAVE UNDERGROUND UTILITIES LOCATED & MARKED.

- THE CONTRACTOR SHALL BE EQUIPPED WITH A MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A CELLULAR PHONE, AND BE AVAILABLE IN A REASONABLE AMOUNT OF TIME TO TAKE DIRECTION FROM THE SDM.



FORGE PROJECT NO: **6657**

DRAWN BY: **AW, TL**

CHECKED BY: **FB**

REV	DATE	DESCRIPTION
A	8/2/2015	ISSUED FOR V.1 LE
B	7/14/2015	ISSUED FOR V.1 90 CDS

CONSTRUCT ONLY FROM DRAWINGS  
MARKED "ISSUED FOR CONSTRUCTION"



DATE SIGNED: \_\_\_\_\_

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**WI2020**  
**CITY OF FITCHBURG**

**2827 COMMERCE PARK DR**  
**FITCHBURG, WI 53719**

**WATER TOWER**

**GENERAL NOTES**

**GN1.1**

G. THE CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY INCLUDING BUT NOT LIMITED TO PROTECTION OF ALL SITE PERSONNEL AND THE GENERAL PUBLIC DURING THE ENTIRE SITE CONSTRUCTION PERIOD. HE SHALL TAKE ALL REASONABLE PRECAUTIONS TO PLACE AND MAINTAIN BARRICADES, LAMPS, SIGNS, AND THE LIKE IN ACCORDANCE WITH OSHA SAFETY ACT AND ANSI OCCUPATIONAL GUIDELINES. H. PROVIDE DAILY UPDATES ON SITE PROGRESS, EITHER VERBAL OR WRITTEN TO SDM. I. COMPLETE INVENTORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO START OF CONSTRUCTION. J. SDM SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS AND SHELTER PLACEMENTS.

1.17 NOTICES UNDER THE CONTRACT:

A. ALL NOTICES, APPLICATIONS, INSTRUCTIONS AND REQUESTS TO BE GIVEN TO THE CONTRACTOR UNDER THE CONTRACT MAY BE GIVEN VERBALLY OR IN WRITING. AT HIS OWN DISCRETION, THE CONTRACTOR SHALL FORWARD TO THE SDM A LETTER CONFORMING HIS VERBAL AGREEMENT.

1.18 COORDINATION WITH PUBLIC UTILITY COMPANIES:

A. THE CONTRACTOR SHALL COORDINATE WITH RELEVANT COMPANIES THE WORK WHICH IS TO BE CARRIED OUT. CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS NOT TO INTERFERE WITH THE OPERATIONS OF PUBLIC AND/OR PRIVATE UTILITY AUTHORITIES INSTALLING SERVICES ON THE SITE.

B. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROTECTION OF SUCH FACILITIES AND STRUCTURES DURING CONSTRUCTION OF THE SITE.

1.19 USE OF PUBLIC ROADS AND TRAFFIC CONTROL:

A. THE CONTRACTOR SHALL MAINTAIN ALL ROADS FREE OF ANY EARTH, ROCK OR OTHER MATERIAL THAT MAY FALL FROM HIS EQUIPMENT OR OTHERWISE BE DEPOSITED ON THE ROADS. ALL SUCH MATERIAL DEPOSITED ON THE ROADS SHALL BE PROMPTLY REMOVED AND THE ROAD CLEANED TO THE SATISFACTION OF THE RELEVANT AUTHORITY.

B. ANY DAMAGE TO PUBLIC ROAD CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE RELEVANT AUTHORITY AND SDM.

C. THE CONTRACTOR IS TO ARRANGE HIS USE OF PUBLIC AND PRIVATE ROADS IN ACCORDANCE WITH THE RELEVANT AUTHORITY'S REQUIREMENTS. HE SHALL MAKE DUE ALLOWANCES FOR ANY RESTRICTIONS THAT MAY BE APPLICABLE, THIS INCLUDES, BUT IS NOT LIMITED TO, LANE CLOSINGS FOR STAGING CRANES, SPECIAL ESCORTS FOR CONTRACTOR FURNISHED MATERIALS, PUBLIC TRAFFIC CONTROL FOR INGRESS OR EGRESS OF CONSTRUCTION TRAFFIC, AND PROVISION OF ANY REQUIRED TEMPORARY CONSTRUCTION ACCESS.

D. THE CONTRACTOR SHALL MAKE ALLOWANCES FOR THE PROCEDURES AND ITEMS NECESSARY TO MAINTAIN NORMAL TRAFFIC FLOW, TO A STANDARD ACCEPTABLE TO THE RELEVANT AUTHORITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, STEEL PLATES, BARRICADES, LIGHTING AND TRAFFIC DIRECTIONS.

1.20 INSPECTIONS:

A. THE CONTRACTOR SHALL NOTIFY THE SDM AT LEAST 48 HOURS IN ADVANCE OF REQUIRED JURISDICTIONAL INSPECTIONS AND INSPECTIONS THAT WILL BE REQUIRED BY THE SDM OR OTHER DESIGNATED CARRIER REPRESENTATIVE ARE:

1. INSPECTION OF GROUNDING SYSTEM PRIOR TO COVER UP
2. PRACTICAL COMPLETION

B. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ENSURING THAT ALL RELEVANT AUTHORITY INSPECTIONS ARE CARRIED OUT IN A TIMELY MANNER. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF ALL INSPECTIONS.

C. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH CARRIER' DESIGNATED ENGINEERING FIRM TO OBTAIN ALL REQUIRED INSPECTIONS AND TESTING. REQUIRED INSPECTIONS AND/OR TESTING ARE:

1. SOIL BEARING CAPACITY
2. BUILDING FOUNDATION REINFORCING
3. CONCRETE CYLINDER TESTS, SLUMP TEST AIR CONTENT, BATCH TICKETS
4. CONCRETE PLACEMENT

1.21 EXPLOSIVES AND DISTURBANCES:

A. THE USE OF EXPLOSIVES OR OTHER DEVICES WHICH MAY DISTURB LOCAL RESIDENCES WILL NOT BE PERMITTED WITHOUT PRIOR WRITTEN CONSENT FROM THE SDM, AND WRITTEN CONSENT OF THE PROPERTY OWNER. WHEN APPROVED BY THE SDM, WORK OF THIS TYPE SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH THE REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK. PROPERTY OWNERS LIKELY AFFECTED BY THE WORK SHALL BE NOTIFIED IN ADVANCE, IN WRITING. ALL SUCH NOTIFICATIONS SHALL BE COPIED TO THE SDM. CONTRACTOR RESPONSIBLE FOR ANY AND ALL CLAIMS AS A RESULT OF THESE ACTIVITIES.

1.22 ENVIRONMENTAL PROTECTION:

A. NOISE LEVEL: THE CONTRACTOR SHALL ENSURE THAT STATE AND LOCAL REGULATIONS ARE COMPLIED WITH IN REGARD TO NOISE LEVELS PRODUCED BY HIS OR HIS SUBCONTRACTOR'S EQUIPMENT OR METHODS OF CONSTRUCTION.

B. DUST CONTROL: THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO LIMIT THE CREATION OF ANY DUST NUISANCE THAT MIGHT ARISE DURING CONSTRUCTION TO THE SATISFACTION OF THE LOCAL AUTHORITIES AND THE PROPERTY OWNER. IF NECESSARY, THE CONTRACTOR SHALL REGULARLY WATER ALL TRACKS AND CONSTRUCTION AREAS. THE SDM MAY DIRECT THAT WORK CEASE UNTIL SUCH TIME AS ANY PARTICULAR DUST NUISANCE IS CONTROLLED TO THE SATISFACTION OF THE SDM, LOCAL AUTHORITIES, AND PROPERTY OWNERS.

C. PRESERVATION OF TRESS AND SHRUBS: THE CONTRACTOR AND HIS EMPLOYEES AND SUBCONTRACTORS SHALL REFRAIN FROM DESTROYING, REMOVING, OR CLEARING TREES AND SHRUBS UNLESS SPECIFICALLY REQUIRED ON THE CONTRUCTION PLANS OR APPROVED BY THE SDM.

1.23 REINSTATEMENT:

A. ANY PAVEMENT, FOOTPATH, CURB, GUTTERS, WALLS, FLOORS, SERVICES, AND EXISTING FEATURES OR OTHER PROPERTIES, DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE REINSTATED TO A CONDITION AT LEAST EQUAL TO THAT EXISTING BEFORE COMMENCEMENT OF OPERATIONS.

1.24 AS-BUILTS DRAWINGS:

A. THE CONTRACTOR SHALL PREPARE A RED LINED SET OF AS-BUILT DRAWINGS. THE FORM OF MARKED UP CONSTRUCTION PLANS SHALL BE OF A STANDARD ACCEPTABLE TO THE SDM. SUCH DRAWINGS SHALL BE SUBMITTED TO THE SDM (TOTAL OF THREE (3) COPIES OF AS-BUILTS) WITHIN ONE WEEK FROM PRACTICAL COMPLETION AND PRIOR TO APPROVAL OF THE CONTRACTOR'S FINAL INVOICE.

1.25 PRACTICAL COMPLETION:

- A. DOCUMENTATION BY CARRIER BEFORE COMPLETION CAN BE ISSUED INCLUDE:
1. ALL CONCRETE TEST RESULTS ARE OUTLINED IN THESE SPECIFICATIONS
  2. ALL QUALITY ASSURANCE CHECKLISTS AS OUTLINED IN THE PREVIOUS SECTIONS
  3. WARRANTIES AND MAINTENANCE MANUALS, IF APPLICABLE (SHELTER, TOWER, GENERATOR)
  4. GROUND SYSTEM RESISTANCE TEST
  5. CERTIFICATE OF OCCUPANCY

B. MARKED UP DRAWINGS SUITABLE TO PRODUCE AS-BUILTS WILL BE REQUIRED WITHIN ONE WEEK FOLLOWING PRACTICAL COMPLETION AND BEFORE FINAL PAYMENT. THESE DRAWINGS SHALL BE SUBMITTED TO THE SDM FOR APPROVAL AND FURTHER PROCESSING.

C. LIEN WAIVERS AS OUTLINED IN THE PAYMENT TERMS OF THE CONTRACT WILL BE REQUIRED PRIOR TO APPROVAL OF FINAL PAYMENT.

1.26 INSURANCE AND BONDS:

A. EACH CONTRACTOR SHALL AT HIS OWN EXPENSE CARRY AND MAINTAIN FOR THE DURATION OF THE PROJECT ALL INSURANCES AS REQUIRED AND LISTED AND SHALL NOT COMMENCE WITH HIS WORK UNTIL HE HAS PRESENTED A CERTIFICATE OF INSURANCE STATING ALL COVERAGES OF THE GENERAL CONTRACTOR WHO SHALL, IN TURN, FORWARD A COPY OF ALL CERTIFICATES TO THE SDM.

B. CARRIERS SPECIFIC PROJECT SITE SHALL BE NAMED AS ADDITIONAL INSURED S ON ALL POLICIES.

C. THE FOLLOWING ITEMS ARE QUALIFICATIONS THAT CARRIER WILL REQUIRE FROM THE CONTRACTOR WHO IS AWARDED THE CONTRACT.

D. CONTRACTOR MUST PROVIDE PROOF OF INSURANCE MEETING CARRIER INSURANCE REQUIREMENTS. THE FOLLOWING IS A LIST OF MINIMUM INSURANCE REQUIREMENTS REQUIRED BY CARRIER, STATUTORY WORKERS' COMPENSATIONS, INCLUDING \$500,000.00 EMPLOYERS' LIABILITY.

1. COMPREHENSIVE GENERAL LIABILITY INCLUDING PERSONAL INJURY, BROAD FORM PROPERTY DAMAGE, INDEPENDENT CONTRACTOR, "XCU", AND PRODUCTS/COMPLETED OPERATIONS, WITH LIMITS NOT LESS THAN \$2,000,000.00 PER OCCURANCE.
2. ADDITIONAL INSURED ENDORSEMENT NAMING CARRIER, AND CARRIER'S CONTRACT REPRESENTATIVES, ON THE LIABILITY POLICIES OF THE CONTRACTOR.
3. AUTOMOBILE LIABILITY NOT LESS THAN \$1,000,000.00 PER OCCURANCE.
4. EXCESS LIABILITY "UMBRELLA" POLICY OF \$1,000,000.00 PER OCCURANCE.

PART 2 SITE WORK: EARTHWORK AND DRAINAGE

2.00 SITE PREPARATION:

A. SITE PREPARATION

1. THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO PROTECT EXISTING STRUCTURES, UTILITIES, WALKWAYS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE DURING CONSTRUCTION OPERATIONS.

2. SAFETY MEASURES WILL BE REQUIRED OF THE CONTRACTOR TO PROTECT ALL PERSONNEL DURING FOUNDATION EXCAVATION AND SHELTER CRANING. THIS MAY INCLUDE, BUT IS NOT LIMITED TO, TEMPORARY DISCONNECTION OF OVERHEAD POWER LINES.

B. GEOTECHNICAL INFORMATION

1. A PROFESSIONAL GEOTECHNICAL INVESTIGATION OF THE SITE MAY BE CARRIED OUT BY OTHERS AND FURNISHED TO THE CONTRACTOR AS PART OF THE SITE SPECIFIC PLANS AND SPECIFICATIONS FOR REFERENCE ONLY AND DOES NOT LIMIT HIS LIABILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN INTERPRETATIONS OF THE SUBSURFACE CONDITIONS DOCUMENTED IN THE GEOTECHNICAL REPORT. IF HE CONSIDERS THIS INFORMATION AND/OR SAMPLES TO BE LACKING OR INADEQUATE, HE SHALL CARRY OUT FURTHER INVESTIGATIONS, AT HIS EXPENSE, TO SATISFY HIMSELF OF THE SUB-SURFACE CONDITIONS.

C. SURVEYING AND LAYOUT

1. A PROFESSIONAL LAND SURVEY OF THE SITE MAY BE FURNISHED TO THE CONTRACTOR AS PART OF THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL USE A REGISTERED LAND SURVEYOR, AT HIS OWN EXPENSE, FOR ALL CONSTRUCTION SURVEYING THAT MAY BE REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

2. WHERE THE CONTRACTOR BELIEVES THAT NECESSARY DIMENSIONS ARE NOT SHOWN ON THE CONSTRUCTION PLANS, HE MUST REQUEST THESE DIMENSIONS FROM THE SDM IN WRITING BEFORE STARTING THE JOB. HE SHALL MAKE ADEQUATE PROVISIONS, IN TIME, FOR THE SDM TO DETERMINE SUCH DIMENSIONS WITHOUT CAUSING DELAY OF WORKS.

D. EXISTING UTILITIES

1. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITES PRIOR TO COMMENCING CONSTRUCTION ACTIVITY. TRENCHES IN PUBLIC ROADS, RIGHT OF WAYS AND PRIVATE PROPERTY SHALL BE EXCAVATED IN SUCH A MANNER THAT NO DAMAGE TO A UTILITY IS LIKELY TO OCCUR. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE SAFETY AND IF NECESSARY REPAIR OF ALL PUBLIC UTILITY SERVICES SUCH AS GAS, ELECTRICITY, WATER, TELEPHONE, AND THE LIKE. CONTRACTOR IS RESPONSIBLE FOR PAYMENT OF ALL FINES ASSOCIATED WITH INTERRUPTION OF EXISTING UTILITIES.

2. DO NOT INTERRUPT EXISTING UTILITIES SERVING THE PROPERTY OWNER OR OTHERS WITHOUT WRITTEN PERMISSION FROM THE PROPERTY OWNER AND APPROVAL FROM THE SDM. PROVIDE 48 HOUR NOTIFICATION TO THE PROPERTY OWNER AND THE SDM PRIOR TO INTERRUPTION OF EXISTING UTILITIES AND ONLY AFTER MAKING PROVISION FOR TEMPORARY UTILITY SERVICES, RELOCATE EXISTING UTILITIES AS DIRECTED ON THE CONTRUCTION PLANS.

3. WHERE INACTIVE SEWER, WATER, GAS, ELECTRICAL, OR OTHER UTILITES ARE ENCOUNTERED WITHIN THE SITE THAT INTERFERE WITH THE EXECUTION OF THE CONSTRUCTION WORK, THE CONTRACTOR SHALL AT HIS OWN EXPENSE, REMOVE TERMINATE SUCH UTILITIES IN ACCORDANCE WITH THE UTILITY COMPANY'S RECOMMENDATION, AS REQUIRED BY LOCAL ORDINANCES AND CARRIED OUT BY SITE CONTRACTOR.

E. EROSION CONTROL

1. EROSION CONTROL MEASURES SUCH AS SILT FENCING AND/OR HAYBALES SHALL BE UTILIZED TO PREVENT SOIL AND DEBRIS FROM CONTAMINATING ADJACENT PROPERTIES, WALKWAYS, AND ROADS.

2.01 WORK INCLUDED:

REFER TO THE LAND DEVELOPMENT PLAN AND SITE PLAN FOR WORK INCLUDED

2.02 RELATED WORK:

- A. CONSTRUCTION OF BUILDING FOUNDATION
- B. INSTALLATION OF ANTENNA SYSTEM

2.03 DESCRIPTIONS:

A. ACCESS ROAD, TURNAROUND AREAS, AND SITES ARE CONSTRUCTED TO PROVIDE A WELL DRAINED, EASILY MAINTAINED, EVEN SURFACE FOR MATERIAL AND EQUIPMENT DELIVERIES AND MAINTENANCE PERSONNEL ACCESS.

2.04 QUALITY ASSURANCE:

- A. APPLY SOIL STERILIZER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION (USE AS NEEDED).
- B. GRASS SEED SHALL BE APPLIED AND MAINTAINED AS RECOMMENDED BY THE SEED PRODUCER (IF REQUIRED).
- C. VEGETATION LANDSCAPING, IF INCLUDED WITHIN THE CONTRACT, WILL BE PLACED AND MAINTAINED AS RECOMMENDED BY NURSERY INDUSTRY STANDARDS (IF REQUIRED).

2.05 SEQUENCING (WHERE APPLICABLE):

- A. CONFIRM SURVEY STAKES AND SET ELEVATION STAKES PRIOR TO ANY CONSTRUCTION.
- B. THE COMPLETE ROAD AND SITE AREA WILL BE GRUBBED PRIOR TO FOUNDATION CONSTRUCTION OR PLACEMENT OF BACKFILL OR SUB-BASE MATERIAL.
- C. CONSTRUCT TEMPORARY CONSTRUCTION ZONE ALONG ACCESS DRIVE.
- D. THE SITE AREA WILL BE BROUGHT TO SUB-BASE COURSE ELEVATION AND THE ACCESS ROAD TO BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS.
- E. APPLY 7LB. DYCLOMEC BAG HERBICIDE PER 1,000 SQ. FT. AND INSTALL 60 MIL THICK "TERRABOND TYPE II" GEOTEXTILE FABRIC OVER HERBICIDE TREATED SOIL PRIOR TO PLACING BASE MATERIALS.
- F. GRADE, SEED, FERTILIZE, AND MULCH DISTURBED AREAS IMMEDIATELY AFTER BRINGING THE SITE AND ACCESS ROAD TO BASE COURSE ELEVACATION. WATER SITE TO ENSURE GROWTH.
- G. REMOVE GRAVEL FROM TEMPORARY CONSTRUCTION ZONE.
- H. AFTER COMPLETION OF CONSTRUCTION BUT PRIOR TO THE FINAL PUNCH LIST INSPECTION, APPLY 6 INCHES OF FDOT 57 CRUSHED STONE.
- I. AFTER APPLICATIONS OF FINAL SURFACES, APPLY SOIL STERILIZER TO THE STONE SURFACES.

2.06 SUBMITTALS:

A. BEFORE CONSTRUCTION

1. IF LANDSCAPING IS APPLICABLE TO THE CONTRACT, TWO COPIES OF THE LANDSCAPE PLAN UNDER NURSERY LETTERHEAD. IF A LANDSCAPE ALLOWANCE WAS INCLUDED IN THE CONTRACT, AN ITEMIZED LISTING OF PROPOSED COSTS UNDER NURSERY LETTERHEAD (REFER TO SITE PLAN FOR LANDSCAPING REQUIREMENT).
2. SUBMIT FOR APPROVAL, 1/2 CUBIC FOOT OF THE PROPOSED SURFACE COURSE MATERIAL

B. AFTER CONSTRUCTION

1. MANUFACTURER'S DESCRIPTION OF PRODUCT AND WARRANTY STATEMENT ON SOIL STERILIZED.
2. MANUFACTURER'S DESCRIPTION OF PRODUCT ON GRASS SEED AND FERTILIZER.
3. LANDSCAPING WARRANTY STATEMENT.

2.07 WARRANTY:

- A. IN ADDITION TO THE WARRANTY ON ALL CONSTRUCTION COVERED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPAIR ALL DAMAGE TO CARRIERPROPERTY OR SURROUNDING PROPERTY CAUSED BY CONSTRUCTION.
- B. SOIL STERILIZATION APPLICATION WILL GUARANTEE VEGETATION FREE ROAD AND SITE AREAS FOR ONE YEAR FROM DATE OF FINAL INSPECTION.
- C. DISTURBED AREAS WILL REFLECT GROWTH OF NEW GRASS COVER PRIOR TO FINAL INSPECTION.
- D. LANDSCAPING, IF INCLUDED WITHIN THE SCOPE OF THE CONTRACT, WILL BE GUARANTEED FOR ONE YEAR FROM DATE OF FINAL SITE ACCEPTANCE.

PART 3 PRODUCTS

3.00 MATERIALS:

A. SOIL STERILIZERS

1. TOTAL KILL PHASAR CORPORATION  
PRODUCT 910 PO BOX 5123  
EPA 10292-7 DEARBORN, MI 48128  
(313) 563-8000

2. AMBUSH HERBICIDE FARMER INDUSTRIAL PRODUCTS - EPA REGISTERED

1435 MORRIS AVENUE  
UNION, NJ 07083  
(800) 526-4924

B. ROAD AND SITE MATERIALS SHALL CONFORM TO ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT) SPECIFICATIONS. IF THE SITE IS LOCATED IN ANOTHER STATE, ROAD AND SITE MATERIALS SHALL CONFORM TO THE STANDARDS OF THAT STATE.

C. FILL MATERIAL – ACCEPTABLE SELECT FILL SHALL BE IN ACCORDANCE WITH IDOT STANDARD SPECIFICATION FOR HIGHWAYS AND PUBLIC TRANSPORTATION. IF THE SITE IS LOCATED IN ANOTHER STATE, FILL MATERIAL SHALL CONFORM TO THE STANDARDS OF THAT STATE.

D. SOIL STERILIZER SHALL BE EPA REGISTERED OF LIQUID COMPOSITION AND OF PRE EMERGENCE DESIGN.

E. SOIL STABILIZER FABRIC SHALL BE 60 MIL. THICK "TERRABOND TYPE II"

3.01 EQUIPMENT:

A. COMPACTION SHALL BE ACCOMPLISHED BY MECHANICAL MEANS.

1. LARGER AREAS SHALL BE COMPACTED BY SHEEP'S FOOT, VIBRATORY, OR RUBBER TIRED ROLLERS WEIGHING AT LEAST FIVE TONS.
2. SMALLER AREAS SHALL BE COMPACTED BY POWER-DRIVER HAND HELD TAMPERS.

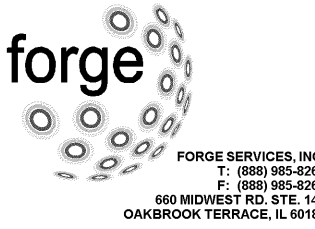
PART 4 EXCAVATION

4.00 INSPECTIONS:

A. LOCAL BUILDING INSPECTION SHALL BE NOTIFIED NO LESS THEN 48 HRS. IN ADVANCE OF CONCRETE POURS.



**MasTec**  
Network Solutions



FORGE PROJECT NO: **6657**

DRAWN BY: **AW, TL**

CHECKED BY: **FB**

REV	DATE	DESCRIPTION
A	8/2/2015	ISSUED FOR V.1 LE
B	7/14/2015	ISSUED FOR V.1 90 CD'S

CONSTRUCT ONLY FROM DRAWINGS  
MARKED "ISSUED FOR CONSTRUCTION"

**DRAFT**

DATE SIGNED: \_\_\_\_\_

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**WI2020**  
**CITY OF FITCHBURG**

**2827 COMMERCE PARK DR**  
**FITCHBURG, WI 53719**

**WATER TOWER**

**GENERAL NOTES**

**GN2.1**

THIS DRAWING IS SCALED FOR 11x17 PAPER (U.S. GOVT. "TABLOID")



- A. CLEAR TREES, BRUSH AND DEBRIS FROM SITE AREA AND ACCESS ROAD RIGHT OF WAY (IF REQUIRED AND WHERE APPROPRIATE).
- B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION EFFORTS GRUB ORGANIC MATERIAL TO A MIN. OF SIX INCHES BELOW ORIGINAL GROUND LEVEL.
- C. UNLESS OTHERWISE INSTRUCTED BY SDM, REMOVE TREES, BRUSH, AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED LANDFILL.
- D. ALL EXCESSIVE SOIL TO BE REMOVED FROM SITE.
- E. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, THE SOIL IS TO BE ROLLED.
- F. WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, LINE OF THE GRUBBED AREAS WITH STABILIZER MAT PRIOR TO PLACEMENT OF FILL OR BASE MATERIAL.
- G. DEWATERING
- I. PREVENT SURFACE WATER FROM ENTERING EXCAVATIONS, FROM ACCUMULATING ON PREPARED SUBGRADES AND FROM FLOODING THE SITE AND ADJACENT PROPERTIES DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL TAKE ADDITIONAL MEASURES, IF REQUIRED, TO PREVENT SUBSURFACE WATER FROM SOFTENING THE SUBGRADES AND FOUNDATION SOILS PRIOR TO PLACEMENT OF CONCRETE.
- H. SLOPING AND SHORING OF EXCAVATIONS
- I. THE CONTRACTOR SHALL PROVIDE ADEQUATE SLOPING, SHORING, BRACING AND/OR SHEET PILING FOR EXCAVATIONS TO PROTECT ADJACENT STRUCTURES AND COMPLY WITH RELEVANT LOCAL CODES, ORDINANCES AND AUTHORITIES, INCLUDING BUT NOT LIMITED TO OSHA AND ANSI REGULATIONS.

THE SITE AND TURNAROUND AREAS SHALL BE AT THE SUB-BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS. GRADE OR FILL THE SITE AND ACCESS ROAD IN ORDER THAT EVEN DISTRIBUTION OF SPOILS FROM FOUNDATION EXCAVATIONS PRODUCE A RESULTING GRADE TO CORRESPOND WITH SUB-BASE COURSE. ELEVATIONS ARE TO BE CALCULATED FROM FINISHED GRADES OR SLOPES INDICATED.

B. EXCESS SPOILS WILL BE CLEARED FROM JOB SITE AND NOT SPREAD BEYOND THE LIMITS OF CARRIER LEASE PROPERTY UNLESS AUTHORIZED BY SDM.

C. THE ACCESS ROAD SHALL BE BROUGHT TO BASE COURSE ELEVATION PRIOR TO FOUNDATION CONSTRUCTION TO PERMIT USE, COMPACTION AND OBSERVATION DURING CONSTRUCTION OF THE SITE.

D. AVOID CREATING DEPRESSIONS WHERE WATER MAY POND.

E. THE CONTRACT SHALL INCLUDE GRADING, BANKING, DITCHING AND UNLESS OTHERWISE INDICATED, COVERING TWO INCHES OF SURFACE COURSE. ALL ROADS OR ROUTES UTILIZED FOR ACCESS TO THE CARRIER SITE COMMENCING AT THE POINT OF INTERSECTION WITH THE NEAREST PUBLIC THOROUGHFARE.

F. WHEN IMPROVING AN EXISTING ACCESS ROAD, GRADE THE EXISTING ROAD TO REMOVE ANY ORGANIC MATTER AND SMOOTH THE SURFACE BEFORE PLACING FILL OR STONE.

G. PLACE FILL OR STONE IN SIX INCH MAXIMUM AND COMPACT BEFORE PLACING NEXT LIFT.

H. THE FINISH GRADE, INCLUDING TOP SURFACE COURSE, SHALL EXTEND A MINIMUM OF ONE FOOT BEYOND THE SITE FENCE AND SHALL COVER THE AREA AS INDICATED.

I. RIPRAP SHALL BE APPLIED TO THE SIDE SLOPES OF ALL FENCED SITE AREAS, PARKING AREAS, AND TO ALL OTHER SLOPES GREATER THAN 2:1.

J. RIPRAP SHALL BE APPLIED TO THE SIDES OF DITCHES OR DRAINAGE SWALES.

K. RIPRAP ENTIRE DITCH FOR SIX FEET IN ALL DIRECTIONS AT CULVERT OPENINGS.

L. SOD, FERTILIZER, AND STRAW COVER SHALL BE APPLIED TO ALL OTHER DISTURBED AREAS, AND DITCHES, DRAINAGE, SWALES, NOT OTHERWISE RIPRAPPED.

M. UNDER NO CIRCUMSTANCES WILL DITCHES, SWALES, OR CULVERTS BE PLACED SO THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER WITHIN THE SITE. IF SUCH CONDITIONS ARE ENCOUNTERED DURING CONSTRUCTION, THE CARRIER IS TO BE NOTIFIED IMMEDIATELY.

N. IF DITCH LIES WITH SLOPES GREATER THAN TEN PERCENT, MOUND DIVERSIONARY HEADWALLS IN THE DITCH AT CULVERT ENTRANCES. THE HEADWALL SHALL BE POSITIONED AT AN ANGLE NO GREATER THAN 60 DEGREES OFF THE DITCH LINE. RIPRAP THE UPSTREAM SIDE OF THE HEADWALL AS WELL AS THE DITCH FOR SIX FEET ABOVE THE CULVERT ENTRANCE.

O. SOD AND FERTILIZER SHALL BE APPLIED TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEED TO EVEN THE SURFACE AND LOOSEN THE SOIL.

P. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROWTH OF SODDED AND LANDSCAPED AREAS, BY WATERING, UP TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

A. COMPACTION SHALL BE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE. PERCENTAGE OF COMPACTION SHALL BE NOTED ON THE DRAWINGS.

A. PROTECT SODDED AREA FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1-2 INCHES, STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL, MESH OR MULCH NET, WILL BE AN ACCEPTABLE ALTERNATE.

B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT WILL BE WRAPPED, TIED WITH HOSE PROTECTED WIRE, AND SECURED TO 2-INCH X 2-INCH X 4-FOOT WOODEN STAKES EXTENDING TWO FEET INTO THE GROUND ON FOUR SIDES OF THE TREE.

C. ALL EXPOSED AREAS SHALL BE PROTECTED AGAINST WASHOUTS AND SOIL EROSION. STRAW BALES WILL BE PLACED AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS WHERE THE SITE OR ROAD AREAS HAVE BEEN ELEVATED IMMEDIATELY ADJACENT TO THE RAIL LINE. EROSION CONTROL FABRIC WILL BE STAKED FULL LENGTH IN THE SWALE BETWEEN THE SITE AND THE RAIL BED TO PREVENT CONTAMINATION OF THE RAIL BALLAST.

A. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION PLANS, READY-MIX CONCRETE SHALL BE 3,000 PSI STRENGTH CONCRETE CONFORMING TO THE ASTM C 94 STANDARDS. SUBMIT DESIGN TO SDM FOR APPROVAL ONE WEEK PRIOR TO POURING CONCRETE. EACH BATCH OF CONCRETE DELIVERED TO THE SITE MUST BE ACCOMPANIED BY A DELIVERY TICKET, PREPARED BY THE READY-MIX SUPPLIER STATING THE TICKET NUMBER, DELIVERY DATE, TIME OF ARRIVAL AT SITE, QUANTITY DELIVERED, AMOUNT OF WATER ADDED ON SITE, MIXING, AND TRAVEL TIME TO THE SITE, AND TIME THAT BATCH POUR WAS COMPLETED.

B. CEMENT SHALL BE PORTLAND TYPE I OR II AS PER ASTM C 150 STANDARDS. AGGREGATES SHALL BE EVENLY GRADED BETWEEN 1/4 AND 3/4 INCHES AS PER ASTM C 33 STANDARDS. WATER SHALL BE POTABLE WATER. CEMENT RATIO AS PER ACI 301. AIR ENTRAINING IN EXTERIOR EXPOSED CONCRETE SHALL BE 6 PERCENT PER ASTM 260. THE USE OF WATER-REDUCING ADMIXTURES IS PERMITTED. NOTIFY THE SDM IN ADVANCE OF USING SUCH ADMIXTURES.

A. SLUMP TESTS, AIR CONTENT TEST, TEMPERATURE READINGS, AND THE SECURING OF COMPRESSION TEST CYLINDERS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IN THE PRESENCE OF AN APPROVED CARRIER REPRESENTATIVE. ONE OF EACH TEST (AS PER BLOW) AND THREE TEST CYLINDERS (AS PER ASTM C 31) SHALL BE TAKEN ON EACH CONCRETE BATCH AT THE BEGINNING OF POURING. TESTING REPORTS TO BE SUBMITTED TO CARRIER COMMUNICATIONS.

A. THE SLUMP TEST SHALL BE PERFORMED ACCORDING TO ASTM C 143. THE ALLOWABLE SLUMP SHALL BE FOUR INCHES PLUS OR MINUS ONE INCH UNLESS OTHERWISE APPROVED BY THE SDM.

A. UNDER NORMAL POURING CONDITIONS THE TEMPERATURE OF THE CONCRETE SHALL NOT EXCEED 90 DEGREES FAHRENHEIT (32 DEGREES CELSIUS) OR GO BELOW 45 DEGREES FAHRENHEIT (7 DEGREES CELSIUS).

B. FOR PROPER RECORD KEEPING, EACH SET OF TEST CYLINDERS SHALL BE MARKED OR TAGGED WITH THE DATE AND TIME OF DAY THE CYLINDERS WERE MADE, THE SITE NAME AND LOCATION OF THE SAMPLED CONCRETE, THE DELIVERY TRUCK OR BATCH NUMBER, THE AIR CONTENT AND THE SLUMP.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DELIVERY OF ALL COMPRESSION TEST CYLINDERS TO CARRIER'S APPROVED TESTING LABORATORY.

D. THE MINIMUM ACCEPTABLE COMPRESSIVE STRENGTHS AS DETERMINED BY ASTM C 39 SHALL BE 70 PERCENT OF FULL DESIGN STRENGTH AT 7 DAYS AND 100 PERCENT OF FULL DESIGN AT 28 DAYS. RESULT OF THE 7-DAY CYLINDER BREAK TEST MUST BE CONFIRMED BY THE CONTRACTOR PRIOR TO PLACING THE BUILDING OR ERECTING THE TOWER. WRITTEN CONFIRMATION OF THE 7-DAY AND 28-DAY CYLINDER BREAKS WILL BE REQUIRED IN THE PRACTICAL COMPLETION DOCUMENTATION.

A. ALL CONCRETE REINFORCING BARS SHALL BE GRADE 60, DEFORMED BARS CONFORMING TO ASTM A615 STANDARDS, UNLESS OTHERWISE SPECIFIED, AND SHALL BE FREE OF LOOSE RUST AND SCALE. HEATING AND WELDING OF REINFORCING BARS IS STRICTLY PROHIBITED. A THREE INCH MINIMUM CLEAR SPACE IS REQUIRED BETWEEN ALL REINFORCING AND ALL CONCRETE SURFACES.

B. WELDED WIRE FABRIC SHALL BE PER ASTM A 185 STANDARDS. STEEL WIRE SHALL BE PLAIN, COLD DRAWN WIRE AS PER ASTM A 82.

C. ALL REINFORCING BOLSTER CHAIRS, SPACERS, AND OTHER ACCESSORIES FOR FASTENING BARS AND WELDED WIRE FABRIC IN PLACE SHALL BE ACCURATELY POSITIONED AND SECURED WHILE CONCRETE IS BEING POURED. ALL REINFORCEMENT SHALL HAVE A MINIMUM CONCRETE COVER OF 3 INCHES, UNLESS OTHERWISE NOTED ON THE CONSTRUCTION PLANS.

A. PLACE, ERECT, SUPPORT AND BRACE FORMS TO PROVIDE HARDENED INDICATED ON THE DRAWINGS. FOUNDATIONS SHALL BE FORMED TO A DEPTH OF 12" BELOW THE FROST OR IN ACCORDANCE WITH THE CONSTRUCTION PLAN, WHICHEVER IS GREATER. EXPOSED CONCRETE SURFACES SHALL BE CONSIDERED ARCHITECTURAL CONCRETE FORMED TO THE TOLERANCES 0.75 INCHES OVER ENTIRE DIMENSION AND HAVING SURFACE CONSISTENCES AS PER ASTM 347 STANDARDS.

B. FABRICATE FORMS TO ALLOW FOR EASY REMOVAL AFTER CONCRETE CURING WITHOUT THE NEED FOR PRYING AND HAMMERING AGAINST CONCRETE SURFACES. FORM MATERIALS SHALL BE SUFFICIENTLY TIGHT TO PREVENT LEAKAGE OF CEMENT PASTE. PROVIDE SUFFICIENT WALL THICKNESS OF TUBES TO PREVENT DEFORMATION DUE TO FORCES OF EXTERNAL PRESSURE.

A. BEFORE ANY FOUNDATION EXCAVATION BEGINS, THE CONTRACTOR SHALL VERIFY ALL SHELTER TOWER BASE, AND GUY ANCHOR LOCATIONS AS SHOWN ON THE SITE DRAWINGS. DISCREPANCIES SHALL BE REPORTED TO THE SDM AS SOON AS POSSIBLE AND BEFORE EXCAVATION COMMENCES.

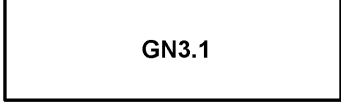
A. EXCAVATE FOOTINGS AND FOUNDATIONS TO THE ELEVATIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION PLANS. EXTEND THE WIDTH OF EXCAVATIONS AT LEAST THREE FEET, OR IN ACCORDANCE WITH OSHA REGULATIONS-WHICHEVER IS GREATER, TO ALLOW FOR SAFE PLACING AND REMOVAL OF FORMWORK, INSTALLATION OF SERVICES AND PERFORMING INSPECTIONS.

B. EXCAVATIONS CARRIED OUT BELOW THE DEPTHS INDICATED ON THE CONSTRUCTION PLANS OR AUTHORIZED BY THE SDM SHALL BE CONSIDERED UNAUTHORIZED. AT NO ADDITIONAL EXPENSE TO CARRIER THE UNAUTHORIZED EXCAVATIONS SHALL BE FILLED TO THE ELEVATIONS INDICATED ON THE CONSTRUCTION PLANS WITH FOUNDATION, CONCRETE, A LEAN CONCRETE MIX, OR ADEQUATELY COMPACTED F.D.O.T. 51 CRUSHED STONE AS APPROVED BY THE SDM.

C. RESULTS AS APPROVED BY THE SDM. EXPENSE FOR SUCH WORK SHALL BE REIMBURSED TO THE CONTRACTOR.

D. UTILITY TRENCHES SHALL BE EXCAVATED AS REQUIRED BY THE CONSTRUCTION PLANS OR LOCAL CODES, WHICHEVER IS GREATER TO ALLOW INSTALLATION OF THE TOP OF THE PIPE OR CABLING TO BE BELOW THE FROST LINE. PROVIDE UNIFORM BEARING AND SUPPORT ALONG THE FULL LENGTH OF THE CONDUIT PIPE. REMOVE STONES AND OTHER OBJECTS FROM THE EXCAVATION THAT WOULD OTHERWISE CAUSE POINT LOADING DAMAGE.

A. THE CONTRACTOR IS RESPONSIBLE FOR SECURITY OF THE SHELTER AND ALL ITS COMPONENTS UNTIL THE DATE OF PRACTICAL COMPLETION. MAINTAIN A KEYED OR COMBINATION LOCK IN ACCORDANCE WITH THE SHELTER DESIGN AND AS REQUESTED BY THE SDM FOR CARRIER USE PRIOR TO PRACTICAL COMPLETION.





PART 7 ELECTRICAL PROVISIONS

- 7.00 GENERAL
- A. SUBMITTAL OF BID INDICATES CONTRACTOR HAS FAMILIARIZED HIMSELF WITH ALL OF JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
- B. CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATIONS TESTS, AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT/ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
- C. HEIGHTS SHALL BE VERIFIED WITH SDM PRIOR TO INSTALLATION.
- D. THESE PLANS ARE DIAGRAMMATIC ONLY; FOLLOW AS CLOSELY AS POSSIBLE.
- E. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, J-BOX, SWITCH BOX, ETC. IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.).
- F. CONTRACTOR SHALL PROVIDE ALL LABOR MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FOR A COMPLETE AND PROPERLY OPERATING SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
- G. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN SAFE CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, NBFU AND "UL" LISTED.
- H. CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH ALL GOVERNING STATE, IBC, NEC, COUNTY AND LOCAL CODES AND O.S.H.A.
- I. CONTRACTOR SHALL OBTAIN ALL NECESSARY BUILDING PERMITS AND PAY ALL REQUIRED FEES PURSUANT TO THE WORK.
- J. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF SITE ACCEPTANCE BY SDM. ANY WORK MATERIAL OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AND AT THE EXPENSE OF THE CONTRACTOR.
- K. ALL CONDUIT SHALL HAVE A PULL WIRE OR ROPE.
- L. PROVIDE SDM WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
- M. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO SDM AT JOB COMPLETION.
- N. USE T-TAP CONNECTIONS ON ALL MULTICIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURE.
- O. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 22,000 A.I.C.
- P. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY UBC, NEC AND ALL APPLICABLE CODES.
- Q. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
- R. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH APPLICABLE BUILDING CODES.
- S. RECEPTACLES SHALL BE 10 AMPERE, 15 VOLT AC, HUBBELL 5362 WHITE. MOUNT ALL RECEPTACLES AT 18" A.F.F. OR REQUIRED BY THE SDM, OR APPROVED EQUAL.
- T. WALL SWITCHES SHALL BE 15 AMPERE, 20 VOLT AC, SINGLE-POLE HUBBELL 1201.
- U. PLASTIC PLATES FOR ALL SWITCH RECEPTACLES, TELEPHONE AND BLANKED OUTLETS, SHALL HAVE ENGRAVED LETTERING WHERE INDICATED ON THE DRAWINGS. WEATHERPROOF RECEPTACLES SHALL HAVE SIERRA UPD-8 LIFT COVERPLATES.
- V. WIRE AND CABLE CONDUCTORS SHALL BE COPPER 600V, TYPE THHN OR THWN, WITH A MIN. SIZE OF 12 AWG. COLOR CODES. ALL RECTIFIER DROPS SHALL BE STRANDED TO ACCEPT CRIMP CONNECTORS.
- W. GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND STRANDED INSULATED 2 AWG COPPER.
- X. GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8" ROUND AND 10' LONG. HARGER OR APPROVED EQUAL.
- Y. ALL CHEMICAL GROUND FRODS SHALL BE "UL" APPROVED.
- Z. METER SOCKET AMPERES, VOLTAGE NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWINGS MANUFACTURED BY SQUARE "D" COMPANY OR APPROVED EQUAL.

7.01 CONDUITS:

- A. RIGID CONDUIT SHALL BE UL LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
- B. ELECTRICAL METALLIC TUBING SHALL HAVE UL LABEL, FITTING SHALL BE GLAND RING COMPRESS ON TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
- C. FLEXIBLE METALLIC CONDUIT SHALL HAVE UL LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
- D. CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILINGS OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGELS TO CEILING, FLOOR OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH ARCHITECT PRIOR TO INSTALLING.
- E. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 OR 80 WITH UV PROTECTION UNLESS NOTED OTHERWISE. AT A MINIMUM DEPTH OF 24" BELOW GRADE IS REQUIRED AND WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CALL JULIE 1-800-892-0123 OR OTHER SUCH NOTIFYING AGENCY FORTY EIGHT (48) HOURS PRIOR TO STARTING AND DIGGING, TRENCHING, EXCAVATION, OR OTHER SUCH EARTH REMOVAL.
- F. ALL ALARMS SHALL BE (2) 22 AWG AND BE RUN FROM EACH OF THE ITEMS AS INDICATED ON DRAWINGS. THE ALARM WIRES SHALL HAVE AN ADDITIONAL LENGTH REACHING TO THE FLOOR, TAGGED AND LABELED WITH THE APPROPRIATE ALARM ITEM. ALL CONTACTS WILL BE NORMALLY CLOSED, DRY AND ISOLATED FROM GROUND. ALARM WILL BE NEATLY RUN AND SECURED EVERY THREE FEET TO WALLS AND EXISTING CABLE TRAY.
- G. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR. ELECTRICAL CONTRACTOR TO SET BILLING TO BE FORWARDED TO PROPER OFFICE. INDICATE SITE NAME AND NUMBER.
- H. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- I. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO SDM. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
- 7.02 GROUNDING ELECTRODE SYSTEM
- A. PREPARATION
1. SURFACE PREPARATION:
2. ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT APPLIED PRIOR TO INSTALLATION.

3. GROUND BAR PREPARATION:

4. ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGER PRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
5. SLEEVES:
6. ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT, BOTH ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.
- B. GROUND BARS
1. ALL GROUND BARS SHALL BE 1/4" THICK BARE COPPER PLATE AND OF SIZE INDICATED ON DRAWINGS.
- C. INTERIOR CONNECTIONS
1. ALL INTERIOR NON-ELECTRICAL MATERIALS, I.E. HVAC GRILLES, HOLLOW METAL DOOR FRAMES/DOORS, CABLE TRAYS, TELCO ENTRANCE CONDUIT (EMT ONLY), ETC. SHALL BE GROUNDED WITH 6 GREEN GROUND WIRES OR JUMPERS WITH SINGLE HOME RUNS BACK TO THE MASTER GROUND BAR (THE CABLE TRAY, DOOR/FRAME AND STEEL CHANNEL MAY BE JUMPED TOGETHER AND HAVE A SINGLE GROUND WIRE CONNECTION TO THE MASTER GROUND BAR). ALL PAINT OR DELETRIOUS MATERIAL SHALL BE REMOVED AT THE POINT OF ATTACHMENT OF ALL GROUND JUMPERS. ALL SINGLE LUG CONNECTORS MUST BE BOLT-THRU USING STAR AND LOCK WASHERS. DOUBLE LUG CONNECTORS MAY BE SCREWED WITH STAR WASHERS.
- D. EXTERNAL CONNECTIONS
1. ALL GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS. CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, TEE'S, X'S, ETC. ALL CABLE TO GROUND RODS, GROUND ROD SPLICES AND LIGHTING PROTECTION SYSTEM AS INDICATED. ALL MATERIALS USED (MOLDS, WELDING METAL, TOOLS, ETC.) SHALL BE BY "CADWELD" AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.
2. ALL GROUNDING AND BONDING CONDUCTORS SHALL BE CONNECTED BY TWO HOLES CRIMP TYPE (COMPRESSION) CONNECTIONS (EXCEPT FOR THE ACEG AND GROUND ROD) MECHANICAL CONNECTIONS, FITTING OR CONNECTIONS THAT DEPEND SOLELY ON SOLDER SHALL NOT BE USED.
3. THE SHELTER SKIDS STEEL FRAME SHALL BE GROUNDED AT TWO LOCATIONS (OPPOSITE ENDS OF THE BUILDING) WITH A 2 SOLID-TINNED BARE COPPER WIRE CONNECTED TO THE EXTERNAL GROUND RING. ALL CONNECTIONS SHALL BE CADWELDED AND SPRAYED WITH COLD GALVANIZED PAINT.
4. WAVEGUIDE PORT AND BRIDGE SHALL BE GROUNDED TO THE EXTERNAL GROUND BAR (EGB) LOCATED BELOW THE WAVEGUIDE ENTRY PORT, WITH 6 SOLID WIRE. THESE CONNECTIONS SHALL BE DOUBLE LUG-BOLTED, SCREWED MECHANICAL CONNECTIONS WITH STAR WASHERS AND NO-OX GREASE
- E. GROUND RODS
1. ALL GROUND RODS SHALL BE 5/8" DIAMETER X 10'-0" LONG "HARGER" OR APPROVED EQUAL, OF NUMBER AND LOCATIONS INDICATED ON THE PLANS. GROUND RODS SHALL BE DRIVEN FULL LENGTH VERTICAL IN UNDISTURBED EARTH. ALL GROUND RODS TO BE NO MORE THAN 10' APART UNLESS OTHERWISE NOTED.

F. CABLES

1. ALL GROUND CABLES SHALL BE STANDARD TINNED SOLID BARE COPPER AND OF SIZE INDICATED ON DRAWINGS.

G. LUGS

- I. LUGS SHALL BE 2-HOLE, SHORT BARREL, STRAND COPPER UNLESS OTHERWISE SPECIFIED IN THIS DOCUMENT. LUGS SHALL BE THOMAS AND BETTS SERIES 548 BE OR EQUIVALENT.
- I. A. 535 MCM DLO 1880BE
- II. B. 262 MCM DLO 1872BE
- III. C. 1/0 DLO 4862BE
- IV. D. 4/0 THWN AND BARE 4866BE
- V. E. 2/0 THWN 4862BE
- VI. F. 2 THHN 4207BE
- VII. G. 6 DLO 1205BE
2. WHEN THE DIRECTION OF THE CONDUCTOR MUST CHANGE, IT SHALL BE DONE GRADUALLY. THE CAPTURE OF THE TURN SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING CHART:
- I. GROUND CONDUCTOR SIZE MINIMUM BENDING RADIUS OF INSIDE EDGE
- II. NO. 6 AWG TO NO. 4 AWG 8 INCS
- III. NO. 2 AWG TO NO. 1/0 AWG 8 INCS
- IV. NO. 2/0 AWG TO 750 MCM 1 FOX
- V. BUSS BAR NO RESTRICTIONS

H. GROUND RING

1. THE EXTERNAL GROUND RING ENCIRCLE THE BUILDING SHALL BE MINIMUM SIZE OF NO. 2 AWG SOLID TINNED BARE COPPER CONDUCTOR IN DIRECT CONTACT WITH THE EARTH AT A DEPTH OF NOT LESS THAN 24 INCHES. CONDUCTOR BENDS SHALL HAVE A MINIMUM RADIUS 8 INCHES.
2. ALL EXTERNAL GROUND RINGS ARE TO BE JOINED TOGETHER AND ALL CONNECTIONS MUST BE EXOTHERMIC WELDS. NO LUGS OR CLAMPS WILL BE ACCEPTED.
3. ASTM FALL POTENTIAL TESTS
4. FOR RAW LAND SITE
5. GROUND TESTS SHALL BE PERFORMED AS INDICATED ON DRAWINGS. A BIDDLE GROUND OHM OR THE METHOD OF USING TWO AUXILIARY GROUND ROD AS DESCRIBED IN I.E.E.E. STANDARD NO. 81-1983 PART MAY BE USED. THE I.E.E.E. METHOD REQUIRES THE USE ON A.C. TEST CURRENT. THE AUXILIARY TEST ROD MUST BE SUFFICIENTLY FAR AWAY FROM THE ROD UNDER TEST SO THAT THE REGIONS IN WHICH THEIR RESISTANCE IS LOCALIZED DO NOT OVERLAP. THE 1<sup>ST</sup> POINT WILL BE THE EXTERIOR TEST WELL AND CONSIST OF THE THREE POINT FULL OF POTENTIAL MEGGER 111 METHOD USING THE BIDDLE NULL-BALANCE EARTH TEST (MEGGER 250220-2 OR EQUIVALENT). RESULTS SHALL B OHMS OR LESS.
6. CONTRACTOR TO CONDUCT GROUND RESISTANCE TEST IN THE FORMAT AS FOLLOWS: (DOES NOT APPLY TO TENANT IMPROVEMENT SITES).
7. 2.1 EQUIPMENT BUILDING
8. FIRST TEST – SHALL BE WITH FOUR GROUND RODS INSTALLED, ONE AT EACH CORNER OF THE BUILDING BUT NOT CONNECTED TO THE MAIN GROUNDING BUSS. FURNISH WIRE TO CONNECT (TEMPORARY CLAMP) ALL FOUR GROUND RODS TOGETHER TO MAKE A SYSTEM TESTER. EACH ROD IS INDIVIDUALLY TESTED. IF ANY INDIVIDUAL ROD TESTS 25 OHMS OR MORE, THE ELECTRICAL CONTRACTOR AND SDM SHOULD BE NOTIFIED SO THAT THE ROD CAN BE DRIVEN DEEPER UNTIL ALL FOUR RODS HAVE A RESISTANCE OF 10 OHMS OR LESS ON A DRY DAY.
9. SECOND TEST – SHALL BE WITH THE GROUND RODS CONNECTED WITH DRY SOIL AND WHEN NO STANDING WATER HAS BEEN PRESENT FOR AT LEAST TEN DAYS. THE MAXIMUM ALLOWABLE READING IS 5 OHMS TO GROUND. IF THE RESISTANCE OF THE ENTIRE SYSTEM EXCEEDS 5 OHMS, THE ELECTRICAL CONTRACTOR AND SDM SHOULD BE NOTIFIED SO THAT EITHER ADDITION AND/OR DEEPER RODS CAN BE INSTALLED.
10. 2.2 TOWER
11. FIRST TEST – SHALL BE WITH THREE GROUND RODS INSTALLED (MIN) EQUALLY SPACED AROUND THE TOWER FOUNDATION BUT NOT CONNECTED TO THE EQUIPMENT BUILDING EXTERNAL GROUND RING. FURNISH WIRE TO CONNECT (TEMPORARY CLAMP) ALL THREE GROUND RODS TOGETHER TO MAKE A SYSTEM TESTER EACH ROD IS INDIVIDUALLY TESTED. IF ANY INDIVIDUAL ROD TESTS 25 OHMS OR MORE, THE ELECTRICAL CONTRACTOR AND SDM SHOULD BE NOTIFIED SO THAT THE ROD CAN BE DRIVEN DEEPER UNTIL ALL THREE RODS HAVE A RESISTANCE OF 10 OHMS OR LESS ON A DRY DAY.

12. SECOND TEST – SHALL BE WITH THREE ROUND RODS CONNECTED WITH DRY SOIL AND WHEN NO STANDING WATER HAS BEEN RPESENT FOR AT LEAST TEN DAYS. THE MAXIMUM ALLOWABLE READING IS 5 OHMS TO GROUND. IF THE RESISTANCE OF THE ENTIRE SYSTEM EXCEEDS 5 OHMS THE ELECTRICAL CONTRACTOR AND SDM SHOULD BE NOTIFIED SO THAT EITHER ADDITION AND/OR DEEPER RODS CAN BE INSTALLED.
13. 2.3 EQUIPMENT BUILDING AND TOWER
14. AFTER THE EQUIPMENT BUILDING AND TOWER GROUND RESISTANCE TEST IS COMPLETED, ELECTRICAL CONTRACTOR SHALL TIE EQUIPMENT BUILDING EXTERNAL GROUND RING AND TOWER EXTERNAL GROUND RING TOGETHER. AFTER FIRST AND SECOND TEST ALL CONNECTIONS MUST HAVE EXOTHERMIC WELDS. NO LUGS OR CLAMPS WILL BE ACCEPTED.
15. AFTER ALL THE EXTERNAL GROUND RINGS ARE TIED TOGETHER BUT BEFORE THE EQUIPMENT BUILDING IS TIED DOWN, A MEGGER CHECK OF THE GROUND SYSTEM SHOULD BE PERFORMED. THE MAXIMUM ALLOWABLE READING IS 5 OHMS TO GROUND.

GROUNDING RESISTANCE TEST REPORT

- I. UPON COMPLETION OF THE TESTING FOR EACH SITE, A TEST REPORT SHOWING RESISTANCE IN OHMS WITH AUXILIARY POTENTIAL ELECTRODES AT 5 FEET AND 10 FEET INTERVALS UNTIL THE AVERAGE RESISTANCE STARTS INCREASING AND ALSO NOTE THAT 10-15 PHOTOS MUST BE TAKEN TO PROOF ENTIRE EXTERNAL GROUND RING SYSTEM BEFORE BACKFILL AND NOTIFY SDM NO LESS THAN 48 HOURS IN ADVANCE OF BACKFILL TESTING SHALL BE COMPLETED BY GENERAL CONTRACTOR AND TWO (2) SETS OF DOCUMENTS ARE TO BE BOUND AND SUBMITTED WITHIN ONE (1) WEEK OF WORK COMPLETION.

PART 8 TELCO SERVICE

- 8.00 GENERAL
- A. APPLICATION FOR TELEPHONE SERVICE WILL BE MADE BY THE SDM. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MATERIALS AND ASSOCIATED LABOR FOR CONNECTION FROM THE TELCO SOURCE TO THE SHELTER AS PER THE CONSTRUCTION PLANS.

- B. PROVIDE A 2 INCH DIAMETER SCHEDULE 40 PVC PIPE FROM THE SHELTER TELCO ENTRY TO A LOCATION INDICATED ON THE CONSTRUCTION PLANS. PLUG OR CAP EACH END OF THE PIPE AND PROVIDE TWO SEPARATE PULL STRINGS SECURELY FASTENED AT EACH END OF THE PIPE. PULL STRINGS SHALL BE 200 LB TEST POLYETHYLENE CORD.

PART 9 FENCE

- 9.00 GENERAL
- A. REFER TO THE SITE PLANS FOR TYPE SIZE AND LOCATION OF FENCE TO BE INSTALLED.

9.01 RELATED WORK:

- A. COORDINATE FENCE GROUNDING WITH ELECTRICAL CONTRACTOR
- B. REFER TO DIVISION 2 FOR SPECIFICATION OF CONCRETE

9.02 DESCRIPTIONS:

- A. A SECURITY FENCE IS PROVIDED IN ORDER TO INHIBIT UNAUTHORIZED ACCESS TO THE SITE.

9.03 QUALITY ASSURANCE:

- A. THE CONTRACTOR SHALL ESTABLISH THE LEGAL BOUNDARY AND LOCALLY REQUIRED SETBACKS ON THE CARRIER PARCEL AND HOLD THE FENCE WITHIN THAT BOUNDARY IN ACCORDANCE WITH THE LINES AND DIMENSIONS OUTLINED ON THE CONSTRUCTION PLANS. WHERE CONFLICTS BETWEEN THE CONSTRUCTION PLANS AND LEGAL REQUIREMENTS EXIST, THE CONTRACTOR SHALL SEEK DIRECTION FROM THE SDM PRIOR TO PERFORMING THE WORKS.

- B. MEMBER SIZES, FABRIC TYPES, CONNECTION DETAILS, SECURITY MEASURES, AND LOCATION OF GATES MUST STRICTLY ADHERE TO THE SPECIFICATIONS.
- C. ALL STEEL MATERIALS UTILIZED IN CONNECTION WITH THIS SPECIFICATION WILL BE GALVANIZED OR STAINLESS STEEL. WEIGHT OF AINC COATING ON THE FENCE FABRIC SHALL BE NOT LESS THAN 12 OUNCES PER SQUARE FOOT OF MATERIAL. COVERED POSTS SHALL BE HOT-DIPPED IN GRADE "E" ZINC, 18 OUNCES PER SQUARE FOOT.

9.04 SEQUENCING:

- A. IF THE SITE AREA HAS BEEN BROUGHT UP TO SURFACE COURSE ELEVATION PRIOR TO FENCE CONSTRUCTION, FENCE POST EXCAVATION SPOILS MUST BE CONTROLLED TO PRECLUDE CONTAMINATION OF SAID SURFACE COURSE.

9.05 SUBMITTALS:

- A. MANUFACTURER'S DESCRIPTIVE LITERATURE
- B. CERTIFICATE OF COMPLIANCE THAT SPECIFICATIONS HAVE BEEN MET.

COAX/ANTENNA INSTALLATION & TESTING REQUIREMENTS

- A. COAX TO BE INSTALLED PER MANUFACTURER'S STANDARDS. DIN CONNECTORS TO BE USED INSIDE & OUTSIDE.
- B. ANTENNA TEST RESULTS (SUPPLIED WITH ANTENNA) NOTING ANTENNA LOCATION TO BE SUBMITTED TO OWNER.
- C. FINAL AZIMUTHS & TILTS TO BE VERIFIED PER FINAL SITE DATA SHEET PROVIDED BY PROJECT MANAGER.
- D. WRITTEN SURVEYOR REPORT VERIFYING FINAL ANTENNA AZIMUTHS TO BE SUBMITTED TO OWNER.

COAX/ANTENNA NOTES

- A. ALL COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE AS SPECIFIED BY THE OWNER. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES.

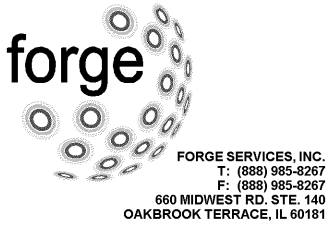
- B. NORTH ARROW SHOWN ON PLANS REFERS TO PLAN NORTH. CONTRACTOR SHALL VERIFY TRUE NORTH AND INFORM CONSTRUCTION MANAGER OF ANY DISCREPANCIES BEFORE STARTING CONSTRUCTION.

ITEMS TO BE PROVIDED TO OWNER BY CONTRACTOR AT SITE INSPECTION

- A. AS-BUILT DRAWINGS
- B. ANTENNA VERIFICATION FORM
- C. SWEEP TEST RESULTS
- D. GROUND TEST RESULTS
- E. SITE PHOTOS
- F. CONTACT NUMBERS



**MasTec**  
Network Solutions



FORGE PROJECT NO: **6657**

DRAWN BY: **AW, TL**

CHECKED BY: **FB**

REV	DATE	DESCRIPTION
A	8/2/2015	ISSUED FOR V.1 LE
B	7/14/2015	ISSUED FOR V.1 90 CD'S

CONSTRUCT ONLY FROM DRAWINGS  
MARKED "ISSUED FOR CONSTRUCTION"

**DRAFT**

DATE SIGNED: \_\_\_\_\_

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**WI2020**  
**CITY OF FITCHBURG**

**2827 COMMERCE PARK DR**  
**FITCHBURG, WI 53719**

**WATER TOWER**

**GENERAL NOTES**

**GN4.1**

THIS DRAWING IS SCALED FOR 11"x17 PAPER (U.S. GOVT. "TABLOID")





LEGEND

# VIEW FROM NORTH BEFORE



## WI2020 CITY OF FITCHBURG

2827 Commerce Park Dr  
Fitchburg, WI 53719 US

Latitude: 43° 00' 29.03"N  
Longitude: 89° 28' 08.68"W







LEGEND

# VIEW FROM NORTH BEFORE



ABSOLUTELY  
NO DUMPING  
ALLOWED  
VIOLATORS WILL BE  
PROSECUTED



## WI2020 CITY OF FITCHBURG

2827 Commerce Park Dr  
Fitchburg, WI 53719 US

Latitude: 43° 00' 29.03"N  
Longitude: 89° 28' 08.68"W





# VIEW FROM NORTH

BEFORE

AFTER



LEGEND



## WI2020 CITY OF FITCHBURG

2827 Commerce Park Dr  
Fitchburg, WI 53719 US

Latitude: 43° 00' 29.03"N  
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# VIEW FROM SOUTH EAST

BEFORE



LEGEND



## WI2020 CITY OF FITCHBURG

2827 Commerce Park Dr  
Fitchburg, WI 53719 US

Latitude: 43° 00' 29.03"N  
Longitude: 89° 28' 08.68"W





# VIEW FROM SOUTH EAST

AFTER



LEGEND



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